

C. DUKES SCOTT
EXECUTIVE DIRECTOR

P.O. Box 11263
Columbia, S.C. 29211



Phone: (803) 737-0800
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DAN F. ARNETT
CHIEF OF STAFF

June 22, 2005

Charles L. A. Terreni, Esquire
Chief Clerk and Administrator
Public Service Commission of South Carolina
Post Office Box 11649
Columbia, South Carolina 29211

Re: Duke Power Allowable Ex Parte Communication Briefing
on June 20, 2005

Dear Mr. Terreni:

Pursuant to the provisions of Section 58-3-260 of the S.C. Code of Laws and as Mr. Scott's designee, I am attaching my certified statement with copies of the statements from all persons present at the June 20, 2005 briefing (see sign-in sheet also attached).

Additionally, you will find a copy of the materials distributed by Duke Power at the meeting as well as a copy of the verbatim transcript of the briefing. It is my understanding that the transcript of the briefing is posted on your website, and this transcript is incorporated by reference in all of the certified statements.

As required by law, please post all of the documents relating to this briefing on your website.

Thank you for your assistance.

Sincerely,

Debbie Hammond
Executive Assistant

Attachments

ALLOWABLE EX PARTE COMMUNICATION BRIEFING
CERTIFIED STATEMENT
(ORS Executive Director or Designee)

THIS CERTIFICATION IS TO:

- BE SIGNED BY EXECUTIVE DIRECTOR OR HIS DESIGNEE, AND
- BE FILED WITH THE CHIEF CLERK OF THE PUBLIC SERVICE COMMISSION **WITHIN SEVENTY-TWO HOURS** OF THIS BRIEFING.

Name: Debbie Hammond	Date of Meeting: June 20, 2005
ORS Position Title: Executive Assistant	Matter: Duke Power Allowable Ex Parte Briefing
	Docket No.: Pursuant to June 9, 2005 Notice of William F. Austin and Richard L. Whitt, Attorneys for Duke Power

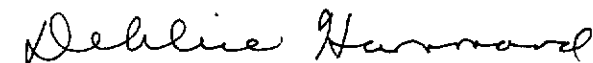
By signing this Certification, I certify that:

1. The briefing was conducted in compliance with the provisions of S.C. Code Ann. §58-3-260(C)(6).
2. EACH PERSON present at the briefing complied with the reporting and certification requirements of (ii), (iii), and (iv) within 48 hours after the briefing.
 - a. The subsection (ii) and (iii) requirements are that EACH ATTENDEE INCLUDING EACH COMMISSIONER AND EACH COMMISSION EMPLOYEE is to file a certification with ORS:
 - i. That accurately summarizes the discussions occurring during the briefing. [S.C. Code Ann. §58-3-260(C)(6)(a)(ii)]
 - ii. With copies attached of any written materials utilized, referenced, or distributed during the briefing. [S.C. Code Ann. §58-3-260(C)(6)(a)(ii)]
 - iii. That no commitment, predetermination, or prediction of any Commissioner's action as to any ultimate or penultimate issue or any Commission employee's opinion or recommendation as to any ultimate or penultimate issue in any proceeding was requested by any person or

party nor any commitment, predetermination, or prediction was given by any Commissioner or Commission employee as to any Commission action or Commission employee opinion or recommendation on any ultimate or penultimate issue. [S.C. Code Ann. §58-3-260(C)(6)(a)(iii)]

- b. The subsection (iv) requirement is that EACH COMMISSIONER AND EACH COMMISSION EMPLOYEE present at the briefing file a certification that they will comply with State law requiring them to grant to every other party or person requesting an allowable ex parte communication briefing on the same or similar matter that is or can reasonably be expected to become an issue in a proceeding, similar access and a reasonable opportunity to communicate, directly or indirectly, regarding any fact, law, or other matter that is or can reasonably be expected to become an issue in a proceeding under the provisions of subsection S.C. Code Ann. §58-3-260(C)(6). [S.C. Code Ann. §58-3-260(C)(6)(a)(iv)]
3. Copies of all certified statements and all other matters filed with ORS by briefing attendees pursuant to(C)(6)(a)(ii), (iii), and (iv) are attached to this certification.
4. Persons and matters not in compliance with S.C. Code Ann. §58-3-260(C)(6) are listed in the lines below or on an attached sheet. If a sheet is attached, it is noted as being attached on the lines below. I further certify that if the lines are blank that all attendees or matters for this briefing are in compliance.

This concludes my Certified Statement.



Signature of Office of Regulatory Staff
Executive Director or Designee

Date: June 22, 2005

Allowable *Ex Parte* Communication Briefing Duke Power, a Division of Duke Energy Corporation

to discuss Broadband Over Power Lines (BPL), also known as Power Line Communications, using existing electric distribution lines to create a last-mile broadband communications network.

**Public Service Commission of South Carolina Hearing Room
Synergy Business Park
101 Executive Center Drive
Columbia, South Carolina 29210**

Monday, June 20, 2005

(PLEASE PRINT)

NAME	ADDRESS	ORGANIZATION
DEBBIE HAMMOND		ORS
Lara S. Nichols	422 S. Church St Charlotte, NC	Duke Power
Rose B. Cummings	526 S. Church St. Charlotte, NC 28202	Duke Power
Janice Hager	422 S Church St Charlotte NC	Duke Power
Jane McManus	422 S Church St Charlotte NC	Duke Power
Richard Whitt	ALN 201A	ALN
Amber Landsman	1301 Gervais St 825 Columbia	Verizon
ROBERT GERARDI	9615 ST. BARTS LN, CHANCO, KY	DUKE POWER
✓ DOUGLAS PRATT	101 EXECUTIVE CENTER	PSC
✓ Dale Damm		PSC
✓ David Butler	101 Executive Ctr.	PSC
✓ Charlie Torrenti	" " "	PSC
✓ Jocelyn Boyd	"	PSC
Commissioners (7)	"	"
✓ Joseph Melchior		"

ALLOWABLE EX PARTE COMMUNICATION BRIEFING
CERTIFIED STATEMENT
(Commissioner/Commission Employee)

THIS CERTIFICATION IS TO:

- BE SIGNED AND COMPLETED BY EACH COMMISSIONER AND PUBLIC SERVICE COMMISSION EMPLOYEES ATTENDING THE BRIEFING, AND
- BE FILED WITH THE OFFICE OF REGULATORY STAFF [1441 MAIN STREET, COLUMBIA, SOUTH CAROLINA 29201] **WITHIN FORTY-EIGHT HOURS** OF THIS BRIEFING.

Name: <i>CHARLIE TENNEN</i>	Date of Meeting: <i>6-20-05</i>
PSC Position Title: <i>Chief Admin.</i>	Matter: <i>Duke Presentation BPL</i>
	Docket No.:

By signing this Certification, I certify that:

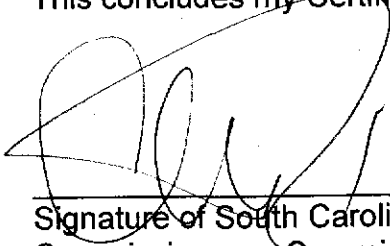
1. No commitment, predetermination, or prediction of any Commissioner's action as to any ultimate or penultimate issue or any Commission employee's opinion or recommendation as to any ultimate or penultimate issue in any proceeding was requested by any person or party nor any commitment, predetermination, or prediction was given by any Commissioner or Commission employee as to any Commission action or Commission employee opinion or recommendation on any ultimate or penultimate issue. [S.C. Code Ann. §58-3-260(C)(6)(a)(iii)]
2. I have accurately summarized the discussions occurring during the briefing in full either in the space below or on an attached sheet. If a sheet is attached, it is noted as being attached on the lines below. [S.C. Code Ann. §58-3-260(C)(6)(a)(ii)]

<i>see attached</i>

3. I have attached copies of any written materials utilized, referenced, or distributed during the briefing. [S.C. Code Ann. §58-3-260(C)(6)(a)(ii)]

4. I will comply with State law requiring me to grant to every other party or person requesting an allowable ex parte communication briefing on the same or similar matter that is or can reasonably be expected to become an issue in a proceeding, similar access and a reasonable opportunity to communicate, directly or indirectly, regarding any fact, law, or other matter that is or can reasonably be expected to become an issue in a proceeding under the provisions of subsection S.C. Code Ann. §58-3-260(C)(6). [S.C. Code Ann. §58-3-260(C)(6)(a)(iv)]

This concludes my Certified Statement.



Signature of South Carolina Public Service
Commissioner or Commission Employee

Date:

6/20/05

ALLOWABLE EX PARTE COMMUNICATION BRIEFING
CERTIFIED STATEMENT
(Commissioner/Commission Employee)

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Name: Joseph Melchers	Date of Meeting: 6/20/05
PSC Position Title: Chief Counsel	Matter: BPL
	Docket No.:

By signing this Certification, I certify that:

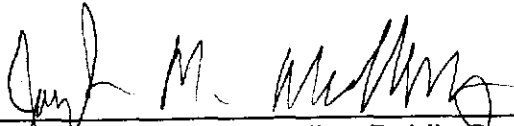
1. No commitment, predetermination, or prediction of any Commissioner's action as to any ultimate or penultimate issue or any Commission employee's opinion or recommendation as to any ultimate or penultimate issue in any proceeding was requested by any person or party nor any commitment, predetermination, or prediction was given by any Commissioner or Commission employee as to any Commission action or Commission employee opinion or recommendation on any ultimate or penultimate issue. [S.C. Code Ann. §58-3-260(C)(6)(a)(iii)]
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see transcript

3. I have attached copies of any written materials utilized, referenced, or distributed during the briefing. [S.C. Code Ann. §58-3-260(C)(6)(a)(ii)]

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This concludes my Certified Statement.



Signature of South Carolina Public Service
Commissioner or Commission Employee

Date: 6/20/05

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(Commissioner/Commission Employee)

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- BE FILED WITH THE OFFICE OF REGULATORY STAFF [1441 MAIN STREET, COLUMBIA, SOUTH CAROLINA 29201] **WITHIN FORTY-EIGHT HOURS** OF THIS BRIEFING.

Name: <i>F. David Butler</i>	Date of Meeting: <i>June 20, 2005</i>
PSC Position Title:	Matter: <i>Broadband Over Power Lines</i>
	Docket No.:

By signing this Certification, I certify that:

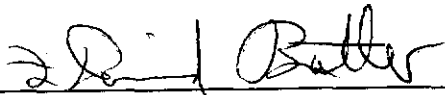
1. No commitment, predetermination, or prediction of any Commissioner's action as to any ultimate or penultimate issue or any Commission employee's opinion or recommendation as to any ultimate or penultimate issue in any proceeding was requested by any person or party nor any commitment, predetermination, or prediction was given by any Commissioner or Commission employee as to any Commission action or Commission employee opinion or recommendation on any ultimate or penultimate issue. [S.C. Code Ann. §58-3-260(C)(6)(a)(iii)]
2. I have accurately summarized the discussions occurring during the briefing in full either in the space below or on an attached sheet. If a sheet is attached, it is noted as being attached on the lines below. [S.C. Code Ann. §58-3-260(C)(6)(a)(ii)]

<i>See Transcript and Attachment</i>

3. I have attached copies of any written materials utilized, referenced, or distributed during the briefing. [S.C. Code Ann. §58-3-260(C)(6)(a)(ii)]

4. I will comply with State law requiring me to grant to every other party or person requesting an allowable ex parte communication briefing on the same or similar matter that is or can reasonably be expected to become an issue in a proceeding, similar access and a reasonable opportunity to communicate, directly or indirectly, regarding any fact, law, or other matter that is or can reasonably be expected to become an issue in a proceeding under the provisions of subsection S.C. Code Ann. §58-3-260(C)(6). [S.C. Code Ann. §58-3-260(C)(6)(a)(iv)]

This concludes my Certified Statement.



Signature of South Carolina Public Service
Commissioner or Commission Employee

Date: 6-20-05

ALLOWABLE EX PARTE COMMUNICATION BRIEFING
CERTIFIED STATEMENT
(Commissioner/Commission Employee)

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- BE FILED WITH THE OFFICE OF REGULATORY STAFF [1441 MAIN STREET, COLUMBIA, SOUTH CAROLINA 29201] **WITHIN FORTY-EIGHT HOURS** OF THIS BRIEFING.

Name: <i>DOUGLAS K. PRATT</i>	Date of Meeting: <i>6/20/05</i>
PSC Position Title: <i>ENGINEER IV</i> <i>TELECOMMUNICATIONS ADVISOR</i>	Matter: <i>DUKE PANE BPL BRIEFING</i>
	Docket No.:

By signing this Certification, I certify that:

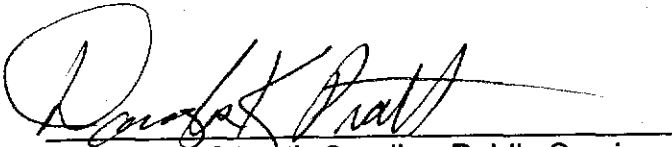
1. No commitment, predetermination, or prediction of any Commissioner's action as to any ultimate or penultimate issue or any Commission employee's opinion or recommendation as to any ultimate or penultimate issue in any proceeding was requested by any person or party nor any commitment, predetermination, or prediction was given by any Commissioner or Commission employee as to any Commission action or Commission employee opinion or recommendation on any ultimate or penultimate issue. [S.C. Code Ann. §58-3-260(C)(6)(a)(iii)]
2. I have accurately summarized the discussions occurring during the briefing in full either in the space below or on an attached sheet. If a sheet is attached, it is noted as being attached on the lines below. [S.C. Code Ann. §58-3-260(C)(6)(a)(ii)]

<i>See transcript and attachment</i>

3. I have attached copies of any written materials utilized, referenced, or distributed during the briefing. [S.C. Code Ann. §58-3-260(C)(6)(a)(ii)]

4. I will comply with State law requiring me to grant to every other party or person requesting an allowable ex parte communication briefing on the same or similar matter that is or can reasonably be expected to become an issue in a proceeding, similar access and a reasonable opportunity to communicate, directly or indirectly, regarding any fact, law, or other matter that is or can reasonably be expected to become an issue in a proceeding under the provisions of subsection S.C. Code Ann. §58-3-260(C)(6). [S.C. Code Ann. §58-3-260(C)(6)(a)(iv)]

This concludes my Certified Statement.


Signature of South Carolina Public Service
Commissioner or Commission Employee

Date: 6/20/05

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Name: <i>Dale Davis</i>	Date of Meeting: <i>6-20-05</i>
PSC Position Title: <i>Administrative Assistant</i>	Matter: <i>Ex parte Briefing / Duke / Broadband</i>
	Docket No.:

By signing this Certification, I certify that:

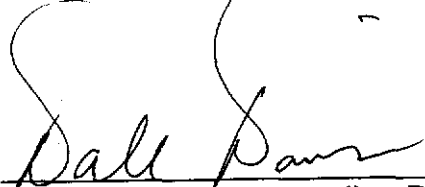
1. No commitment, predetermination, or prediction of any Commissioner's action as to any ultimate or penultimate issue or any Commission employee's opinion or recommendation as to any ultimate or penultimate issue in any proceeding was requested by any person or party nor any commitment, predetermination, or prediction was given by any Commissioner or Commission employee as to any Commission action or Commission employee opinion or recommendation on any ultimate or penultimate issue. [S.C. Code Ann. §58-3-260(C)(6)(a)(iii)]
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<i>SEE TRANSCRIPT & Attachment</i>

3. I have attached copies of any written materials utilized, referenced, or distributed during the briefing. [S.C. Code Ann. §58-3-260(C)(6)(a)(ii)]

4. I will comply with State law requiring me to grant to every other party or person requesting an allowable ex parte communication briefing on the same or similar matter that is or can reasonably be expected to become an issue in a proceeding, similar access and a reasonable opportunity to communicate, directly or indirectly, regarding any fact, law, or other matter that is or can reasonably be expected to become an issue in a proceeding under the provisions of subsection S.C. Code Ann. §58-3-260(C)(6). [S.C. Code Ann. §58-3-260(C)(6)(a)(iv)]

This concludes my Certified Statement.



Signature of South Carolina Public Service
Commissioner or Commission Employee

Date: 4-20-05

ALLOWABLE EX PARTE COMMUNICATION BRIEFING
CERTIFIED STATEMENT
(Commissioner/Commission Employee)

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Name: <u>Jocelyn Boyd</u>	Date of Meeting: <u>June 21, 2005</u>
PSC Position Title: <u>Deputy Clerk</u>	Matter: <u>Duke Power BPL</u>
	Docket No.: <u></u>

By signing this Certification, I certify that:

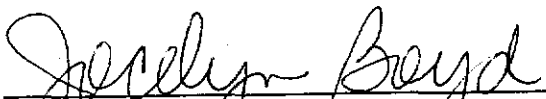
1. No commitment, predetermination, or prediction of any Commissioner's action as to any ultimate or penultimate issue or any Commission employee's opinion or recommendation as to any ultimate or penultimate issue in any proceeding was requested by any person or party nor any commitment, predetermination, or prediction was given by any Commissioner or Commission employee as to any Commission action or Commission employee opinion or recommendation on any ultimate or penultimate issue. [S.C. Code Ann. §58-3-260(C)(6)(a)(iii)]
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<u>See transcript and attachments.</u>

3. I have attached copies of any written materials utilized, referenced, or distributed during the briefing. [S.C. Code Ann. §58-3-260(C)(6)(a)(ii)]

4. I will comply with State law requiring me to grant to every other party or person requesting an allowable ex parte communication briefing on the same or similar matter that is or can reasonably be expected to become an issue in a proceeding, similar access and a reasonable opportunity to communicate, directly or indirectly, regarding any fact, law, or other matter that is or can reasonably be expected to become an issue in a proceeding under the provisions of subsection S.C. Code Ann. §58-3-260(C)(6). [S.C. Code Ann. §58-3-260(C)(6)(a)(iv)]

This concludes my Certified Statement.



Signature of South Carolina Public Service
Commissioner or Commission Employee

Date: June 21, 2005

ALLOWABLE EX PARTE COMMUNICATION BRIEFING
CERTIFIED STATEMENT
(Commissioner/Commission Employee)

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Name: <i>Randy Mitchell</i>	Date of Meeting: <i>6/20/05</i>
PSC Position Title: <i>P.S.C. Chairman</i>	Matter: <i>Duke Power BPL</i>
	Docket No.:

By signing this Certification, I certify that:

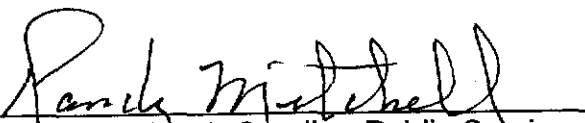
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<i>See transcript and attached document.</i>

3. I have attached copies of any written materials utilized, referenced, or distributed during the briefing. [S.C. Code Ann. §58-3-260(C)(6)(a)(ii)]

4. I will comply with State law requiring me to grant to every other party or person requesting an allowable ex parte communication briefing on the same or similar matter that is or can reasonably be expected to become an issue in a proceeding, similar access and a reasonable opportunity to communicate, directly or indirectly, regarding any fact, law, or other matter that is or can reasonably be expected to become an issue in a proceeding under the provisions of subsection S.C. Code Ann. §58-3-260(C)(6). [S.C. Code Ann. §58-3-260(C)(6)(a)(iv)]

This concludes my Certified Statement.


Signature of South Carolina Public Service
Commissioner or Commission Employee

Date: 6/20/05

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CERTIFIED STATEMENT
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Name: <i>G. O'Neal Hamilton</i>	Date of Meeting: <i>6-20-05</i>
PSC Position Title: <i>Commissioner</i>	Matter: <i>Broad Band over Power Lines</i>
	Docket No.:

By signing this Certification, I certify that:

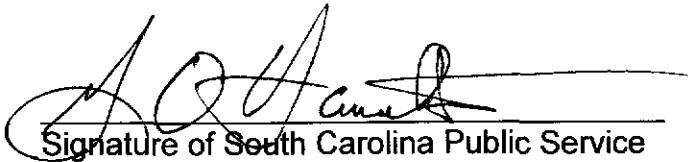
1. No commitment, predetermination, or prediction of any commissioner's action as to any ultimate or penultimate issue or any commission employee's opinion or recommendation as to any ultimate or penultimate issue in any proceeding was requested by any person or party nor any commitment, predetermination, or prediction was given by any commissioner or commission employee as to any commission action or commission employee opinion or recommendation on any ultimate or penultimate issue. [S.C. Code Ann. §58-3-260(C)(6)(a)(iii)]
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<i>See transcript and attached document.</i>

3. I have attached copies of any written materials utilized, referenced, or distributed during the briefing. [S.C. Code Ann. §58-3-260(C)(6)(a)(ii)]
4. I will comply with State law requiring me to grant to every other party or person requesting an allowable ex parte communication briefing on the same or similar matter

that is or can reasonably be expected to become an issue in a proceeding, similar access and a reasonable opportunity to communicate, directly or indirectly, regarding any fact, law, or other matter that is or can reasonably be expected to become an issue in a proceeding under the provisions of subsection S.C. Code Ann. §58-3-260(C)(6). [S.C. Code Ann. §58-3-260(C)(6)(a)(iv)]

This concludes my *Certified Statement*.

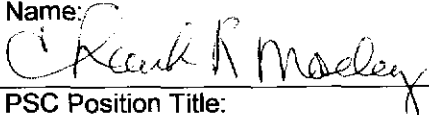

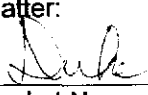
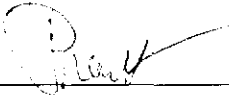

Signature of South Carolina Public Service
Commissioner or Commission Employee

Date: 6-20-05

ALLOWABLE EX PARTE COMMUNICATION BRIEFING
CERTIFIED STATEMENT
(Commissioner/Commission Employee)

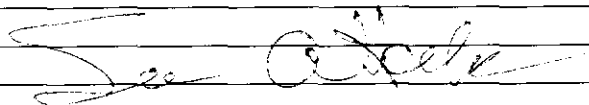
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Name: 	Date of Meeting: 6-20-05
PSC Position Title: 	Matter:  
	Docket No.:

By signing this Certification, I certify that:

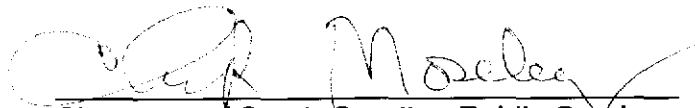
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2. I have accurately summarized the discussions occurring during the briefing in full either in the space below or on an attached sheet. If a sheet is attached, it is noted as being attached on the lines below. [S.C. Code Ann. §58-3-260(C)(6)(a)(ii)]



3. I have attached copies of any written materials utilized, referenced, or distributed during the briefing. [S.C. Code Ann. §58-3-260(C)(6)(a)(ii)]
4. I will comply with State law requiring me to grant to every other party or person requesting an allowable ex parte communication briefing on the same or similar matter

that is or can reasonably be expected to become an issue in a proceeding, similar access and a reasonable opportunity to communicate, directly or indirectly, regarding any fact, law, or other matter that is or can reasonably be expected to become an issue in a proceeding under the provisions of subsection S.C. Code Ann. §58-3-260(C)(6). [S.C. Code Ann. §58-3-260(C)(6)(a)(iv)]

This concludes my Certified Statement.



Signature of South Carolina Public Service
Commissioner or Commission Employee

Date: 6/10/05

ALLOWABLE EX PARTE COMMUNICATION BRIEFING
CERTIFIED STATEMENT
(Commissioner/Commission Employee)

THIS CERTIFICATION IS TO:

- BE SIGNED AND COMPLETED BY **EACH** COMMISSIONER AND PUBLIC SERVICE COMMISSION EMPLOYEES ATTENDING THE BRIEFING, AND
- BE FILED WITH THE OFFICE OF REGULATORY STAFF [1441 MAIN STREET, COLUMBIA, SOUTH CAROLINA 29201] **WITHIN FORTY-EIGHT HOURS** OF THIS BRIEFING.

Name: JOHN "BUTCH" HOWARD	Date of Meeting: 6/20/05
PSC Position Title: COMMISSIONER	Matter: DUKE PRESENTATION BPL
	Docket No.:

By signing this Certification, I certify that:

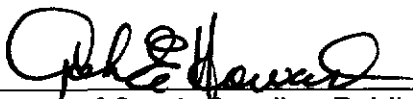
1. No commitment, predetermination, or prediction of any commissioner's action as to any ultimate or penultimate issue or any commission employee's opinion or recommendation as to any ultimate or penultimate issue in any proceeding was requested by any person or party nor any commitment, predetermination, or prediction was given by any commissioner or commission employee as to any commission action or commission employee opinion or recommendation on any ultimate or penultimate issue. [S.C. Code Ann. §58-3-260(C)(6)(a)(iii)]
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See attached minutes

3. I have attached copies of any written materials utilized, referenced, or distributed during the briefing. [S.C. Code Ann. §58-3-260(C)(6)(a)(ii)]
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This concludes my Certified Statement.



Signature of South Carolina Public Service
Commissioner or Commission Employee

Date: 6/20/05

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Name: <i>Elizabeth B. Fleming</i>	Date of Meeting: <i>6.20.05</i>
PSC Position Title: <i>Commissioner Dist. 4</i>	Matter: <i>Duke Power BPL</i>
	Docket No.:

By signing this Certification, I certify that:


1. No commitment, predetermination, or prediction of any commissioner's action as to any ultimate or penultimate issue or any commission employee's opinion or recommendation as to any ultimate or penultimate issue in any proceeding was requested by any person or party nor any commitment, predetermination, or prediction was given by any commissioner or commission employee as to any commission action or commission employee opinion or recommendation on any ultimate or penultimate issue. [S.C. Code Ann. §58-3-260(C)(6)(a)(iii)]
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<i>See transcript and attachment.</i>

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This concludes my Certified Statement.


Signature of South Carolina Public Service
Commissioner or Commission Employee

Date: 6.20.05

ALLOWABLE EX PARTE COMMUNICATION BRIEFING
CERTIFIED STATEMENT
(Commissioner/Commission Employee)

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- BE FILED WITH THE OFFICE OF REGULATORY STAFF [1441 MAIN STREET, COLUMBIA, SOUTH CAROLINA 29201] **WITHIN FORTY-EIGHT HOURS** OF THIS BRIEFING.

Name: <i>Mignon Clyburn</i>	Date of Meeting: <i>June 20, 2005</i>
PSC Position Title: <i>Commissioner</i>	Matter: <i>Duke BPL Presentation</i>
	Docket No.:

By signing this Certification, I certify that:

1. No commitment, predetermination, or prediction of any commissioner's action as to any ultimate or penultimate issue or any commission employee's opinion or recommendation as to any ultimate or penultimate issue in any proceeding was requested by any person or party nor any commitment, predetermination, or prediction was given by any commissioner or commission employee as to any commission action or commission employee opinion or recommendation on any ultimate or penultimate issue. [S.C. Code Ann. §58-3-260(C)(6)(a)(iii)]
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<i>See attached minutes</i>

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This concludes my Certified Statement.

A handwritten signature in black ink, consisting of a large, stylized 'S' followed by a series of loops and a long horizontal stroke.

Signature of South Carolina Public Service
Commissioner or Commission Employee

Date: June 24, 2005

ALLOWABLE EX PARTE COMMUNICATION BRIEFING
CERTIFIED STATEMENT
(Commissioner/Commission Employee)

THIS CERTIFICATION IS TO:

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- BE FILED WITH THE OFFICE OF REGULATORY STAFF [1441 MAIN STREET, COLUMBIA, SOUTH CAROLINA 29201] **WITHIN FORTY-EIGHT HOURS** OF THIS BRIEFING.

Name: <i>David A. Wright</i>	Date of Meeting: <i>6/20/05</i>
PSC Position Title: <i>Commissioner</i>	Matter: <i>Broadband and Power Lines Presentation / DUKE POWER</i>
	Docket No.:

By signing this Certification, I certify that:


1. No commitment, predetermination, or prediction of any commissioner's action as to any ultimate or penultimate issue or any commission employee's opinion or recommendation as to any ultimate or penultimate issue in any proceeding was requested by any person or party nor any commitment, predetermination, or prediction was given by any commissioner or commission employee as to any commission action or commission employee opinion or recommendation on any ultimate or penultimate issue. [S.C. Code Ann. §58-3-260(C)(6)(a)(iii)]
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<i>see attached minutes.</i>

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This concludes my Certified Statement.


Signature of South Carolina Public Service
Commissioner or Commission Employee

Date: 6/20/05

ALLOWABLE EX PARTE COMMUNICATION BRIEFING
CERTIFIED STATEMENT
(Attendee)

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Name: <i>Lara S. Nichols</i>	Date of Meeting: <i>June 20, 2005</i>
Occupation: <i>Attorney</i>	Matter: <i>Broadband Over Powerlines Presentation</i>
Attending on behalf of/for: <i>Duke Power</i>	Docket No.: <i>N/A</i>

By signing this Certification, I certify that:

1. No commitment, predetermination, or prediction of any Commissioner's action as to any ultimate or penultimate issue or any Commission employee's opinion or recommendation as to any ultimate or penultimate issue in any proceeding was requested by any person or party nor any commitment, predetermination, or prediction was given by any Commissioner or Commission employee as to any Commission action or Commission employee opinion or recommendation on any ultimate or penultimate issue. [§58-3-260(C)(6)(a)(iii)]
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<i>Please see attached transcript.</i>

3. I have attached copies of any written materials utilized, referenced, or distributed during the briefing. [§58-3-260(C)(5)(a)(ii)]

This concludes my Certified Statement.


Signature of Briefing Attendee

Date: 6.21.2005

ALLOWABLE EX PARTE COMMUNICATION BRIEFING
CERTIFIED STATEMENT
(Attendee)

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- BE FILED WITH THE OFFICE OF REGULATORY STAFF [1441 MAIN STREET, COLUMBIA, SOUTH CAROLINA 29201] **WITHIN FORTY-EIGHT HOURS** OF THIS BRIEFING.

Name: ROBERT GERARDI	Date of Meeting: 6/20/2005
Occupation: ENGINEER	Matter: DUKE POWER BPL
Attending on behalf of/for: DUKE POWER	Docket No.: N/A

By signing this Certification, I certify that:

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SEE ATTACHED TRANSCRIPT

3. I have attached copies of any written materials utilized, referenced, or distributed during the briefing. [§58-3-260(C)(6)(a)(ii)]

This concludes my Certified Statement.



Signature of Briefing Attendee

Date: 6/21/05

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- BE FILED WITH THE OFFICE OF REGULATORY STAFF [1441 MAIN STREET, COLUMBIA, SOUTH CAROLINA 29201] **WITHIN FORTY-EIGHT HOURS** OF THIS BRIEFING.

Name: <i>Janice D Hoyer</i>	Date of Meeting: <i>6-20-05</i>
Occupation: <i>VP, Rates & Reg Affairs, Duke</i>	Matter: <i>Broadband over Powerline Presentation</i>
Attending on behalf of for: <i>Duke Power</i>	Docket No.: <i>N/A</i>

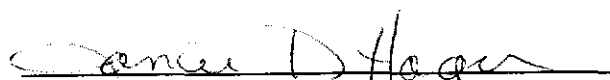
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<i>Please see attached transcript</i>

3. I have attached copies of any written materials utilized, referenced, or distributed during the briefing. [§58-3-260(C)(6)(a)(ii)]

This concludes my Certified Statement.


Signature of Briefing Attendee

Date: 6-21-05

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Name: <i>Rose B. Cummings</i>	Date of Meeting: <i>06/20/05</i>
Occupation: <i>Public Affairs - Duke Power</i>	Matter: <i>Broadband over power lines presentation</i>
Attending on behalf of/for: <i>Duke Power</i>	Docket No.: <i>N/A</i>

By signing this Certification, I certify that:

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<i>see attached transcript</i>

3. I have attached copies of any written materials utilized, referenced, or distributed during the briefing. [§58-3-260(C)(6)(a)(ii)]

This concludes my Certified Statement.

Rose B. Cummings

Signature of Briefing Attendee

Date: 06/21/05

ALLOWABLE EX PARTE COMMUNICATION BRIEFING
CERTIFIED STATEMENT
(Attendee)

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- BE FILED WITH THE OFFICE OF REGULATORY STAFF [1441 MAIN STREET, COLUMBIA, SOUTH CAROLINA 29201] **WITHIN FORTY-EIGHT HOURS** OF THIS BRIEFING.

Name: Jana L. McAlamans	Date of Meeting: 3/26/05
Occupation: Dir. Rate Design and Analysis, Duke Power	Matter: Broadband over Powerlines Presentation
Attending on behalf of/for: Duke Power	Docket No.: N/A

By signing this Certification, I certify that:

1. No commitment, predetermination, or prediction of any Commissioner's action as to any ultimate or penultimate issue or any Commission employee's opinion or recommendation as to any ultimate or penultimate issue in any proceeding was requested by any person or party nor any commitment, predetermination, or prediction was given by any Commissioner or Commission employee as to any Commission action or Commission employee opinion or recommendation on any ultimate or penultimate issue. [§58-3-260(C)(6)(a)(iii)]
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See attached transcript

3. I have attached copies of any written materials utilized, referenced, or distributed during the briefing. [§58-3-260(C)(6)(a)(ii)]

This concludes my Certified Statement.

Samuel L. Anderson
Signature of Briefing Attendee

Date: 6/24/05

ALLOWABLE EX PARTE COMMUNICATION BRIEFING
CERTIFIED STATEMENT
(Attendee)

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Name: RICHARD L. WHITT	Date of Meeting: 6-20-05
Occupation: Attorney for Duke Power	Matter: "Broad Band over Powerline"
Attending on behalf of/for:	Docket No.:

By signing this Certification, I certify that:

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SEE ATTACHED TRANSCRIPT

3. I have attached copies of any written materials utilized, referenced, or distributed during the briefing. [§58-3-260(C)(6)(a)(ii)]

This concludes my Certified Statement.

R. J. Whitt

Signature of Briefing Attendee

Date: 6-21-05

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Name: AMBER LANDSMAN	Date of Meeting: 6/20/05
Occupation: Regulatory - Specialist	Matter: Broadband over Power Lines
Attending on behalf of/for: VERIZON Communications	Docket No.:

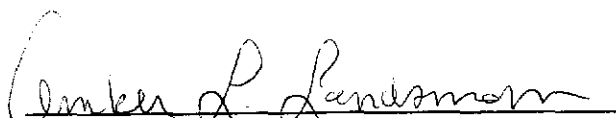
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See attached transcript

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This concludes my Certified Statement.


Signature of Briefing Attendee

Date: 6/21/05

BEFORE THE PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA
COLUMBIA, SOUTH CAROLINA

Allowable *Ex Parte* Communication Briefing JUNE 20, 2005 10:00 A.M.

DUKE POWER, a Division of Duke Energy Corporation — *Allowable Ex Parte Communication Briefing to Discuss Broadband Over Power Lines, (BPL), also known as Powerline Communications, using existing electric distribution lines to create a last-mile broadband communications network.*

BRIEFING BEFORE: Randy MITCHELL, CHAIRMAN, G. O'Neal HAMILTON, VICE CHAIRMAN; and COMMISSIONERS John E. "Butch" HOWARD, David A. WRIGHT, Elizabeth B. "Lib" FLEMING, Mignon L. CLYBURN, and C. Robert MOSELEY.

STAFF: Douglas Pratt, David Butler, Charlie Terreni, Jocelyn Boyd, Dale Davis.

APPEARANCES: **Debbie Hammond, Office of Regulatory Staff**

Duke Power Participants:

**Richard Whitt, Attorney at Law
Austin, Lewis & Rogers, P.A.
PO Box 11716
Columbia SC 29211**

ORIGINAL

**Robert Gerardi, Program Manager
Duke Power, Powerline Communications
ECO1R
PO Box 1006
Charlotte, NC 28201**

**Lara Nichols, Duke Power
Rose B. Cummings, Duke Power
Janice Hager, Duke Power
Jane McManeus, Duke Power**

TRANSCRIPT OF TESTIMONY AND PROCEEDINGS

VOLUME 1 of 1

1 CHAIRMAN MITCHELL: Thank you. Be
2 seated please. All right. I will call this
3 special presentation to order at this time.
4 And who will be in charge? Mr. Whitt, are
5 you going to be in charge?

6 MR. WHITT: Mr. Gerardi will be in
7 charge of it. I've got some opening remarks.

8 CHAIRMAN MITCHELL: Certainly.

9 MR. WHITT: Bob Gerardi will be your
10 presenter today. And I want to introduce you
11 to some other folks from Duke Power, Lara
12 Nichols, of course you all know.

13 CHAIRMAN MITCHELL: Right.

14 MR. WHITT: Janice Hager, Jane McManeus
15 and Rose Cummings you'll probably be meeting
16 for the first time today. And we want to
17 thank you for the opportunity to give the
18 briefing before the Commission and we want to
19 thank Debbie Hammond from ORS for coming
20 over. And some of it, things will go
21 smoothly. We are under Act 175 and there are
22 some kind of strange constraints of that act
23 that we want to kind of cover as we go
24 through.

25 CHAIRMAN MITCHELL: That's not new.

1 MR. WHITT: Yes. The subject is
2 broadband over power lines. And Mr. Gerardi
3 is here to give you information on it. We
4 would love for you to ask questions and talk
5 back and forth with him. And as you said
6 last time, Mr. Chairman, we can be informal
7 as far as all the presentation is concerned.

8 CHAIRMAN MITCHELL: Yes, sir.

9 MR. WHITT: We appreciate that. And the
10 folks in the audience, if they can help on
11 some of the questions they would be glad to
12 do so. We just want you to have the
13 information.

14 CHAIRMAN MITCHELL: Great. Thank you.

15 MR. WHITT: The other thing that we do
16 want to talk about, though, is the scope is
17 broadband over power lines. And
18 unfortunately we need to stay on that topic
19 alone. And the other thing is that we're not
20 here soliciting your approval today of this
21 matter or anything to do with the approval,
22 so in the conversation we're having back and
23 forth with you we're not looking to see if
24 you think this is a good idea or if this
25 would work or voting in for approval, but

1 it's just opposite. It's simply about
2 broadband over the power lines. So we
3 appreciate the opportunity to be here. Mr.
4 Gerardi?

5 **PRESENTATION BY MR. GERARDI:**

6 Good morning. My name is Bob Gerardi. I run the powerline
7 communications program for Duke Power, and I appreciate the
8 opportunity to come and talk to you this morning about what we're
9 doing with broadband over power lines. Just a little bit of
10 vernacular to begin with. In my presentation today you will hear
11 me talk about both broadband over power lines, BPL, and powerline
12 communications, or PLC.

13 For purposes of this presentation when I'm referring to
14 broadband power lines, that is really referring to a retail high
15 speed internet type of service very analogous to
16 DSL through the subscriber lines. When you hear me talk about
17 powerline communications, we're really talking about a network
18 technology.

19 So I wanted to make that clear at the beginning. What I
20 thought I would do today in the brief time we have together is
21 first explain to you what is involved with providing broadband
22 power line service and what are the components of a powerline
23 communications network. We will then look what's happening out
24 there in the industry, what are the key drivers behind this
25 technology and opportunity. We will talk about the basic process

1 that Duke Power is following to realize this opportunity. We
2 will highlight some of the key elements of our powerline
3 communications strategy. We will look back at some of the
4 accomplishments from last year, and we will outline the plans for
5 2005.

6 When looking at providing broadband powerline service,
7 there is really six key components that make that happen. The
8 first component of that is actually connection to the internet.
9 And that can be done in a variety of ways. The way that we do
10 it is through a connection that is what is called a point of
11 presence or POP facility. So that's where we have a service
12 provider partner. In other cases of the utilities we are
13 pursuing different models which simply get IT grain or content
14 at that location. But at that point we connect to the
15 internet.

16 We then use existing fiber optic transport to transport
17 that connection out to the distribution grid or the
18 neighborhood where we plan to provide that service. You may
19 have heard of fiber to the home, fiber to the access, this is
20 really fiber to the neighborhood for deployment.

21 Once we get into the neighborhood that we plan to serve we
22 then couple that signal onto the existing medium-voltage
23 distribution system. And Duke's distribution system, medium
24 voltage is referred to as 12 kilovolts and 24 KB and that
25 system out of the substation. So we use that as the main

1 backbone for providing transport throughout the community.
2 That is - at that point it is converted from fiber over to
3 Ethernet and is physically coupled right onto the existing
4 wires that provides power to that community. That is done
5 through an inducted or a capacity coupler, and we'll show you
6 some pictures of that in just a minute. So that signal is then
7 repeated or regenerated as necessary as it goes down the
8 medium-voltage line. Once we get the the customer premise we
9 need to get on the local side, which is the 240-volt side on
10 the other side of the transformer, and that is done by
11 bypassing the transformer through a coupler.

12 Once it's on the low-voltage side of that transformer, all
13 the customers that are fed off that transformer are enabled for
14 service and the customer would actually receive the signal
15 directly from any outlet in their home. We provide them a
16 modem that they plug directly into the outlet. The other
17 connection goes into their PC and they are up and running with
18 that connection. It truly is plug and play.

19 I should say at any time feel free to interrupt me if you
20 have any questions. But that retail service of broadband
21 powerline is just one component of what Duke is really
22 interested in in developing the powerline communications
23 network.

24 This diagram is intended to show that on a joint used PLT
25 network that it's used for both retail and utility use. There

1 are those common elements that we just talked about, which is
2 the backbone and backhaul components of the fiber, but there is
3 also some specific end components for - specifically for
4 utility use and some that are specifically for retail use.
5 This diagram here is intended to show you just a couple of
6 examples of that. If you look at items three and four on this
7 chart you will see that those are examples and applications
8 that would be used by the utility, whether they are an IP-based
9 meter that's at a commercial customer site or their equipment
10 at a substation, whether they be circuit equipment, cameras,
11 bank meters and so forth. And then if you look at like five
12 and six, that may be where a repeater has been installed at the
13 customer meter and, of course, the modem inside the homes are
14 specific for broadband powerline service. So you have these
15 common network elements that are shared by everyone and then
16 specific elements off of that network that are for either
17 retail or utility use. And we will show you some pictures of
18 those in a minute.

19 Here are actually some real pictures of the equipment that
20 we installed last year. In the upper right-hand corner of this
21 diagram you will see an example of an underground installation.
22 And each of the technology vendors has a little bit different
23 form factor. This is probably the lowest profile form factor
24 that you will see out there where it actually fits inside the
25 transformer. Some of the other vendors have a little bit

1 larger profile and it requires it to be installed in another
2 transformer, but the function is the same.

3 MR. HAMILTON: Excuse me. I would
4 like to ask you a question, and you've
5 probably answered it, but on the chart we
6 just looked at, I notice on the pole under
7 you've got a neutral line.

8 MR. GERARDI: Yes, sir.

9 MR. HAMILTON: Is that necessary? Is
10 this an additional line?

11 MR. GERARDI: No, sir. What that's
12 intended to show is that the majority of
13 this equipment is actually installed in
14 most public utility spaces. It's above the
15 neutral line. There will be some equipment
16 that extends down into the communications'
17 space where it actually connects to fiber
18 or some other backbone component. But
19 primary all this equipment, as you'll see
20 in subsequent pictures, this is called in
21 the utility space and that's where it
22 attaches to those wires.

23 MR. HAMILTON: What is your experience
24 so far in surges, you know, electrical
25 storms, that kind of stuff, where your

1 computers are at risk, not just your
2 equipment but the computers and stuff?

3 MR. GERARDI: Well, let's first
4 address the equipment that's on the line.
5 All of the equipment that is installed on
6 the line actually has either fuses or some
7 other type of fail-safe mechanisms built
8 in. So if they do get hit by lightning or
9 have some type of power surge that single
10 point of failure will result in that piece
11 of equipment no longer working, but will
12 not cause an outage. It will be isolated
13 to that piece of equipment. And we can
14 tell by looking at the equipment through
15 the network management system that that
16 equipment is not functioning as a result of
17 that. In terms of the equipment in the
18 customer's home, it's really no different
19 than any other type of equipment that you
20 would install on this cable modem or DSL
21 modem in your house. So there is no higher
22 percentage of surge as a result of this
23 equipment than any other electrical
24 equipment that you put in your house.

1 MR. HAMILTON: Do you use surge
2 protectors?

3 MR. GERARDI: Typically we don't like
4 customers to use surge protectors as it
5 related to the specific modem because those
6 tend to attenuate the signal. But there
7 are surge protectors you can buy that will
8 work with the system. And we would provide
9 the customer a list of those, if they would
10 like to have a surge protector. But we
11 typically like the customer to plug it
12 directly into an outlet.

13 COMMISSIONER CLYBURN: As a follow up
14 to that say the worst happens in terms of
15 some type of house surge or some type of
16 malfunction, something abnormal, what is the
17 cause and effect if something goes wrong,
18 any type of damage or replacement costs or
19 whatever to any of the components to the
20 home?

21 MR. GERARDI: To the home? I'm
22 assuming you're talking about a surge
23 inside the home from a lightning storm?

24 COMMISSIONER CLYBURN: Yes. I guess
25 I'm more specifically looking at if we go

1 to page four, five and six, if those would
2 be directly - those pieces of equipment
3 would be directly customer specific, what
4 type of - is there is any type of damage or
5 something that occurs. And if so, what
6 type of costs are we looking at?

7 MR. GERARDI: It's hard to speculate.
8 You asked if the damage would be isolated
9 to the actual modem, itself, because of the
10 circuitry that's in there. The first
11 connection from the outlet is into that -
12 into those circuit boards, and because of
13 the components, the electronic components
14 on that would actually fail. And then the
15 only other connection out of there is the
16 actual Ethernet or USB connection in the
17 customer's PC.

18 COMMISSIONER CLYBURN: So the worst-
19 case scenario would be modem damage?

20 MR. GERARDI: That's what we believe,
21 yes.

22 COMMISSIONER CLYBURN: And what would
23 be the replacement costs on that?

24 MR. GERARDI: For a modem to the
25 customer would be free.

1 COMMISSIONER CLYBURN: Okay. Even if
2 some type - even if that were to occur, if
3 there were damage, you would replace that
4 at no cost to -

5 MR. GERARDI: We're going to go
6 through our model here in a couple of
7 minutes. And you can see that actually
8 under our model the service provider
9 partner handles that.

10 COMMISSIONER CLYBURN: Thank you.

11 MR. GERARDI: You're welcome.

12 **BY MR. GERARDI:**

13 So going back to this side right here in the upper
14 right-hand corner you will see an example of an underground
15 installation. That blue box in the back, that is attached to
16 the back is actually the SMART repeater, a technology that is
17 the electronics. On the front side here, you will see a black
18 coupler that is on the right of the lower elbow there. That is
19 actually an inductive coupler that projects the signal right on
20 to the primary side of that transformer.

21 On an overhead installation it's almost identical. With
22 this particular vendor they have two couplers. There is
23 actually a NEMAN closure box here on the pole that contains
24 that blue piece of equipment there, that blue box. And on
25 overhead they have a medium-voltage - excuse me, a primary

1 coupler that's up here on the primary, on the face of the
2 primary, and then a neutral coupler that is down here on the
3 neutral. And then finally for a multi-dwelling unit, such as
4 an apartment building, we may wire in a mobile repeater that
5 will provide additional amplification within that building
6 because of some of the long electricity runs that are there.
7 And for a residential customer we use, today, a meter socket
8 adapter, which is where you can physically remove the meter,
9 plug that meter back on to provide that low-voltage computer at
10 a residential customer's home. And that will be going away
11 with some of the newer technology.

12 So now that you understand a little bit more about the
13 technology and the components of that, let's find out what's
14 going out there in the industry. Today there is probably more
15 than 50 US utilities that are investigating broadband power
16 lines. Some of those that I'm sure you have heard of include
17 Cinergy, Pennsylvania Power and Light, City of Manassas, all
18 have commercial deployment. I would say if you look at this
19 map over here on the right, which was actually from an FCC
20 report on current broadband programs, they are all at various
21 stages. We have talked to some utilities that are just getting
22 started trying to understand what - how to proceed and others
23 that have actually taken a commercial deployment like those
24 folks listed up there.

1 When we first started looking at this technology back at
2 then end of 2003 there was a handful of small vendors that
3 provided the actual communications equipment. And what we have
4 seen late last year is some established equipment manufacturers
5 such as Motorola and Mitsubisha Electric who have entered into
6 this market and are now providing equipment to provide
7 powerline communications. That's a great sign for the
8 industry. They see something that is here and it will help to
9 drive down manufacturing costs and will actually help to
10 expedite the standards' process, as well.

11 One of the things that I'm sure you're aware of is that
12 broadband penetration continues to increase, and a lot of that
13 is driven by some of these drivers that you see up here in on-
14 line gaming, music, telework, which is telecommuting work from
15 home, digital photography, as well. They are all emerging as
16 drivers behind broadband penetration. And that is supposed to
17 continue for the near future.

18 There is also five organizations that have been formed to
19 develop standards for this industry. And HomePlug is one
20 that's probably been around the longest. That started out as
21 an in-home powerline communications standard body. You can go
22 out to Circuit City, Best Buy and buy a HomePlug modem today
23 and do networking within your home if you would like to do
24 that. And they have started to develop an access BPL which is,
25 you know, bringing the power lines up to the meter which is

1 really what we're talking about here today. And so we are
2 actually a member of HomePlug and we're on that alliance to
3 help drive that, as well.

4 OPERA stands for Open PLC European Research Alliance.
5 That's the European version of the standard bodies within the
6 United States. UPA stands for Universal Powerline Alliance.
7 We are also a member of that group, as well. And CEPCA is a
8 Consumer Electronic Powerline Communications Alliance. People
9 like Sony, Mitsubishi, Panasonic are driving that particular
10 specifications body because they want to get to a point where
11 they can put all that communications right within the
12 appliance, itself. So when you plug it into your outlet, they
13 can do audio, video right directly to the power lines,
14 themselves.

15 And then finally IEEE. All of that groups I just
16 mentioned are really specifications groups. Work comes into a
17 standard body, which is IEEE, and that group has already
18 started, as well, and we are also participating in those
19 proceedings.

20 So we think that powerline communications and specifically
21 broadband power lines has significant potential to offer new
22 facility-based competition for the broadband services that are
23 provided today.

24 Let's talk a little bit about the process that Duke is
25 using to realize this opportunity. We are following a

1 traditional time to market phase gate process, which allows you
2 to have a well-defined phase gate and criteria established
3 before proceeding from one phase gate to another. We started
4 this process in earnest back in July of 2003 with what I call
5 the intellectual capital investment. Before we put out any
6 pieces of equipment in the field we put together a cross
7 functional team with subject-matter experts from groups across
8 Duke Power to develop a formal business plan that would really
9 articulate all of the elements required to bring this
10 opportunity to market. Those included, certainly, a technology
11 analysis of the vendors that were out there. It looked at the
12 market. It looked at the regulatory treatment, risk analysis,
13 certainly financial analysis, and put that together in a form
14 of a formal business plan which was presented to our senior
15 team in November of 2003. At that time we recommended that
16 Duke continue that investment and move into the second phase of
17 the process, which was really a field trial. That phase
18 happened last year. And really the purpose behind that phase
19 was primarily a technology trial, but really to validate that
20 business plan and to continue to do risk mitigation and
21 assessment.

22 We provided a report of the final results in November of
23 last year to the senior team, again with a recommendation to
24 proceed with the investment. They agreed, and we are now in
25 phase three, which is what we're referring to as a pre-

1 commercialization phase or a market readiness phase. And we'll
2 be talking about some of the elements of all three of those
3 phases here in just a minute. I will add that we do have one
4 more phase gate that is coming up at the end of this phase
5 where we will make a go or no-go decision on commercialization
6 of this opportunity.

7 Let's talk about some of the key components of that
8 business plan. First, Duke Power's business model,
9 specifically for broadband power lines. What you see here on
10 this slide is a traditional value chain analysis. At the
11 foundation of that value chain is the actual technology vendor,
12 the BPL vendor which provides the equipment. And again, there
13 is a growing list of those vendors out there today. You then
14 need to have a power infrastructure to put that equipment on,
15 and, of course, that is Duke Power for us. You also then need
16 to have a communications infrastructure provider to provide
17 that back haul component, because just having a powerline
18 infrastructure isn't going to get you there. You need to also
19 have a significant communications infrastructure, either
20 wireless or fiber to provide that back haul connectivity.

21 And finally, you need to have a service provider piece
22 which will actually do the detailed interface to the end user.
23 For us we really want to do those middle two, the middle two
24 pieces there. We want to build, operate and manage the
25 powerline communications network really from the POP or point

1 of presence to the CPE in the customer home. We do not want to
2 be a retail provider. That is not where our core capabilities
3 lie. Our core capabilities lie in building a managing network.
4 We will partner with third-party service providers to do that
5 end-use provisioning. Those providers will actually provide
6 the first two or three layers of support to those customers.
7 The customer experience is really with that service provider
8 and we provide escalation up to our network operations center
9 for tier three and four support if they are not able to resolve
10 that issue with the customer over the phone remotely. So we
11 will really be a wholesale network provider and we will provide
12 access to multiple service providers through our network in
13 return for access fees to that network.

14 Really, this model leverages the brand equity of those
15 players already in that space, and for them the value
16 proposition is: number one, we don't compete; and two, we think
17 we can provide a more profitable alternative than what we are
18 giving today. If you look at some of the national ISPs and
19 some of the LECs that are out there today, they have
20 essentially been forced into a bring-your-own-access strategy
21 or are systematically being squeezed out of the market based on
22 PSL line sharing and UNE agreements going away. So this is a
23 great opportunity for them and solves a need that they have to
24 remain to participate in this market.

1 Our go-to-market model will include some co-marketing and
2 co-branding with the providers. Really, the direct marketing
3 will be done by the service providers, themselves. And from
4 Duke's perspective we really want to create awareness around
5 acknowledging what we are doing with it, in addition to
6 providing broadband service and change the customer's
7 perception of the outlet on the wall. We will also look to
8 position our partners with our customers so that they know
9 these offerings are available to them, as well.

10 The hallmark of a profitable strategy is really a balance
11 approach between revenue growth and productivity strategy. And
12 ours is no different. When we talk about the retail services
13 that can be provided over this powerline communications
14 network, and those are listed on the left-hand side there,
15 there is also additional opportunity for Duke to provide value-
16 added services in using this technology, really enhancing
17 offerings that we provide today. And we will talk about those
18 in just a minute.

19 But really, the other side of that equation is all about
20 operational efficiency, leveraging those existing assets to
21 total delivery costs. We really feel that between both of
22 these, we feel that one mitigates risk from the other and they
23 are both equally important. Again, revenue streams will come
24 from access through the PLT network and perhaps from value-
25 added services that Duke can provide to both residential and

1 CNI customers. The long pull in the pants or really the end
2 gate for us is really using this technology to improve our
3 operations in areas of metering, distribution control and
4 outage management. And if you look at a revenue growth
5 strategy, that's going to be primarily driven by costs to
6 deploy and RLI, and that can be somewhat divergent with what
7 you would want to get out of a productivity strategy, which is
8 where the utility may force you or want you to build out in
9 areas that are more rural because automation benefits will be
10 higher. So in order to centrally manage both of these
11 conversion of strategies we feel that it is best if this
12 business resides within Duke Power to centrally manage both of
13 those.

14 When we build off this network we will deploy what is
15 called a smart deployment strategy. And there are three main
16 factors that will determine how a powerline communications
17 network will be built out via a smart deployment strategy.
18 They are, first; cost to deploy, second; what we call the
19 continuity of operations, which is that utility benefit piece
20 and finally, propensity to buy, which is where you want to
21 build out to get the prime rates that you are looking to
22 achieve.

23 If you look at costs to deploy there are three things that
24 drive cost to deploy for this technology. The first is
25 customer per transformer density, the second is proximity to

1 fiber for that back haul component, and finally whether
2 overhead or underground can also contribute to the costs
3 involved with that, as well.

4 COMMISSIONER CLYBURN: Could I ask a
5 question, please?

6 MR. GERARDI: Yes.

7 COMMISSIONER CLYBURN: When you talk
8 about the cost to deploy, I think I just
9 heard you say the benefits from a Duke
10 Power perspective on a rural end. And I
11 guess the common safety net where we are
12 thus far, or the more popular theory is and
13 makes more sense is you just said something
14 about in terms of the right side of the
15 equation that you, Duke Power, would
16 probably achieve more. And I can
17 understand that in terms of deploying
18 people out in the least populated areas.
19 In terms of cost to deploy, how does that
20 come into play here from your perspective?
21 Because it wouldn't necessarily be in sync
22 with what I would call the retail, you
23 know, your partners' perspective, how you
24 reconcile that. And I don't know if I am

1 stating -- am I connecting with you? Okay,
2 thank you. I appreciate that.

3 MR. GERARDI: I understand where you
4 are going. Unlike a facilities' based
5 provider that is focusing just on retail
6 services, the fact that we are building on
7 the joint use network that has both
8 productivity and revenue growth strategies,
9 that will allow us to build out in areas
10 that aren't necessarily attracted to the
11 public facilities' based providers because
12 of those tangible benefits that we would
13 get from automation. So the costs to
14 deploy may not be significantly lower than
15 it would be for those other facilities'
16 based providers, but the fact is you will
17 not only get, perhaps, some revenue, but
18 more significantly the operational
19 efficiency gains can justify the build outs
20 in perhaps the more rural areas.

21 COMMISSIONER CLYBURN: So again, where
22 is -- in terms of your priorities, where is
23 that? In terms of deployment, where is
24 that putting you. I mean, will there be a

1 simultaneous track or would it be 60/40 or
2 -

3 MR. GERARDI: That's really what we're
4 going to talk about right here.

5 COMMISSIONER CLYBURN: Okay. I'm
6 done.

7 BY MR. GERARDI:

8 So, if you look at - if you look at cost to deploy, again,
9 it's those three things. And what you see here on this chart
10 is a map of the Duke Power service territory here. And by
11 taking the data out of our existing systems, we first looked at
12 customer per transformer density on an average per square mile.
13 And the red dots indicate the highest average customer per
14 transformer density all the way down to the dark blues, which
15 is the lowest. So you can see that those range anywhere from
16 12 down to one and two.

17 And as you pointed out on average the highest customer
18 potential per density is going to be in the large metropolitan
19 areas where you are going to have those densities. But that,
20 again, is just one piece. So what you see here is now a blow-
21 up of the Charlotte, Mecklenburg area here. And each of these
22 dots represents a square mile. And I know it may be a little
23 hard to see, but maybe if you look on your paper, each of these
24 dots that these arrows are pointing to are all red dots, which
25 means that they are all very high average per customer

1 densities within that square mile. But you then take your
2 fiber map and overlay it on top of that, and you'll see that
3 you start to get some more granularity around cost to deploy.
4 Whereas these two arrows on the bottom are relatively very
5 close to existing fiber, this one at the top is a little bit
6 farther away and would actually be more costly to deploy
7 because of the additional fiber that you would have to run to
8 provide connectivity to that area.

9 You then take and look at your ratio of overhead to
10 underground within those existing areas and you get a pretty
11 good idea of the cost to deploy based on this type of analysis.
12 But, again, the actual cost to deploy is just one component of
13 a smart deployment strategy.

14 The next is continuity of operations, which is where
15 you're going. And that really would - in order for the utility
16 to get some of the benefits that they would want to get out of
17 this you have to build this out into somewhat of a contiguous
18 area; first by circuit, then by substation and eventually by op
19 zone. I truly believe that the substation will become the
20 central office, analogous to the central office for the
21 BellSouths, the Verizons in terms of that being kind of the
22 head end for BPL. We will build it probably out by substation.

23 CHAIRMAN MITCHELL: Could I ask a
24 question?

25 MR. GERARDI: Sure.

1 CHAIRMAN MITCHELL: When you're
2 talking about your deployment I know you're
3 talking about a metropolitan areas, will it
4 be deployed to South Carolina as equally in
5 South Carolina with the facilities to be
6 readily available to South Carolina
7 customers as well as North Carolina
8 customers at the same time? I guess what
9 I'm asking, I know you're talking about
10 thickly populated areas where deployment -
11 where you already have the fiber, but I
12 guess what I'm asking is will this system
13 be readily available to South Carolina
14 customers, as well as North Carolina
15 customers?

16 MR. GERARDI: I think the jury is
17 still out on that. I mean, we have to
18 finish our analysis, but by looking at the
19 preliminary data, the answer to that would
20 be yes.

21 CHAIRMAN MITCHELL: The same type
22 areas in both states?

23 MR. GERARDI: Yes, sir. There are as
24 many attractive areas in South Carolina as
25 there is in North Carolina.

1 COMMISSIONER HAMILTON: Are your tests
2 being conducted in North and South Carolina
3 or both?

4 MR. GERARDI: Today they are just
5 southeast of Charlotte, they are in North
6 Carolina today.

7 CHAIRMAN MITCHELL: Could I summarize,
8 then, that if fiber optic lines have al
9 ready been laid before, then those areas
10 would probably be more available for this
11 service? I know if fiber is not already
12 there then we could summarize that it's
13 probably going to be awhile?

14 MR. GERARDI: It really has to do more
15 with the costs. We have fiber that goes
16 out to some real rural areas. And we have
17 fiber that is in, you know, more
18 metropolitan areas, so the fiber is one
19 component, I would say. If you look at -
20 we're going to look at all these
21 components. So if you look at the
22 continuity of operations, again, the
23 utility may drive you to build out in more
24 rural areas because you're going to achieve
25 those automation benefits. So that is an

1 equal component and a smart deployment
2 strategy for us.

3 BY MR. GERARDI:

4 And finally, propensity to buy. Where do the service
5 provider partners want you to target those customers to get
6 those subscription rates that they are looking to get. And we
7 will look at all three of these elements when deciding where to
8 build out and how fast to build out.

9 COMMISSIONER CLYBURN: And that goes
10 into the propensity to buy. We were
11 talking about that a couple of weeks ago,
12 the take rates. What - I don't know if you
13 have any feel for that. What are you
14 potentially looking at? Because I've never
15 heard a figure above the ten-percent take
16 rate.

17 MR. GERARDI: I prefer not to discuss
18 that today. But it really will come down
19 to - it really will come down to the
20 effective marketing of the service provider
21 partners or parties for the service and the
22 actual service by performance price offers
23 that we are able to provide. It will come
24 down to the amount of competition within a
25 particular area that we're looking to

1 provide the services in. There are a bunch
2 of factors that will come into play.

3 **BY MR. GERARDI:**

4 So, looking back at the trial from last year, we partnered
5 with three ISPs for our trial last year, those being AT&T,
6 EarthLink and LecStar Telecom, who is a small competitive local
7 exchange carrier out of Atlanta. And we partnered with them
8 for the delivery of both broadband internet and telephony,
9 voice services providing services to customers within that
10 trial. We also worked with Charlotte-based CPI Security to
11 evaluate new home monitoring systems using the BPL networks.
12 Today CPI systems are voice activated, so if an alarm gets
13 tripped in your house an operator will come over an intercom
14 and say, is everything okay? That requires a phone line. And
15 a growing number of their customer base is moving away from
16 land lines to cellular phones and others. So, in addition to
17 that they would also like to get them to do realtime monitoring
18 with cameras, which would require a high speed internet
19 connection. Some of the older clients do not have those. So
20 this provides them a great opportunity for enabling those
21 systems directly to the electrical lines that are enabled by
22 the online communications system.

23 We also worked with the City of Charlotte on a variety of
24 projects last year. They came to us with quite a laundry list
25 of things that they would like to test out and try. We

1 whittled that down to three specific projects for last year,
2 the first being a camera and traffic signal controller at the
3 intersection of our trial area, which we will show you in a
4 second. And we demonstrated the ability to talk to that camera
5 and that traffic control device over the power lines for that,
6 which is a significant opportunity.

7 We also demonstrated reading a water meter within the
8 existing trial area. They used the same verted technology that
9 we use in our electric meters. And also Piedmont Natural Gas
10 uses the same verted technology in their gas meters. So within
11 this trial area we were able to not only read our electric
12 meters but the water meters for the city and gas meters for
13 Peidmont.

14 And finally we also provided communications to the fire
15 station that was within the trial area. They wanted to do a
16 remote page back control from their central office and they
17 also wanted to provide connectivity for their fire fighters to
18 do some training online. So we did all three of those projects
19 last years.

20 Duke Power also spend significant time and resources to
21 evaluate metering, distribution optimization, outage management
22 and asset management capabilities using the deployed network.
23 And we're going to talk about those in just a moment. You may
24 have heard about radiated emissions from these systems,
25 potentially interfering with licensed operators within this two

1 or three megahertz areas we operated in. We certainly take
2 that concern very seriously. Last year we commissioned the
3 University the North Carolina at Charlotte to conduct a
4 measurement evoking emissions from our system. We worked with
5 both the FCC and the MPIA to develop that test plan. And we
6 did measurements before the equipment was installed, during the
7 installation and after the equipment was up and running and
8 specifically looked for interference on those licensed
9 frequencies. The report came back from that from the
10 university and gave us a clean bill of health. I think early
11 on in some of the early generations of equipment there were
12 interference issues. Now what we're seeing with the later
13 technologies, gen two and gen three from these providers, they
14 have done a great job in notching frequencies, adjusting power
15 levels, frequency shifting, to avoid interference with those
16 licensed operators. So that's a good thing, as well.

17 And finally we created a broadband power line
18 demonstration home last year up in Charlotte, where we
19 showcased commercial and utility applications for both the
20 management team and other folks that were able to come in.

21 COMMISSIONER CLYBURN: In terms of the
22 ham radio operators and the complaints to
23 the FCC about that, of second and third
24 generation, any updated information on
25 that? Where are they coming from in terms

1 of this? Are they weighing in the same -
2 in line with this UNC-C stated, also, you
3 know, with that - I don't know if it was an
4 open docket or - I'm not sure in terms of
5 how that was in terms of communications in
6 their open dockets. But do you have any
7 idea where they are with that?

8 MR. GERARDI: Yes. Last year the FCC
9 did what they called a notice of proposal
10 rule making. We participated in that NPRM.
11 And really what the FCC was advocating was
12 that these systems would fall within the
13 existing FCC part 15 emissions limits for
14 unintentional radiators. And that report
15 and order came out in October of last year.
16 And cited that would have to be part 15
17 compliant. Also made other specific
18 requirements around a database of where
19 this equipment would be located and other
20 requirements that we will need to comply
21 with. So we will, as we look to expand out
22 deployment and test out new technologies
23 this year, we will be in compliance with
24 that new report and order.

25 BY MR. GERARDI:

1 In terms of logistics for the file, our current footprint
2 is approximately 500 residents, and there also are some small
3 businesses within this area. If you look at that diagram there
4 is - this is downtown Charlotte, so it's a little southeast of
5 Charlotte. And really, when we looked at building out a trial
6 area we had six different areas that we were looking at. And
7 we had specific criteria we were looking to achieve. We wanted
8 to have both overhead and underground distribution. We wanted
9 to have single and multi-family dwellings. We wanted to have a
10 good mixture of aging construction. We wanted to have access
11 to an existing substation and access to existing fiber just to
12 keep our costs as low as possible. And when we looked at all
13 the areas that we had we selected this area because it ranked
14 the highest in our standards analysis.

15 We had approximately 80 customers who had signed up to
16 participate in the trial, and we had utility application
17 equipment installed both in the substation and out of the
18 distribution lines as part of this trial. And the trial is
19 currently free to participants and all we ask is that they give
20 us some feedback on the service. We have created a website
21 which I have provided a link for at the end of this
22 presentation. That was really created specifically for those
23 trial participants. And there is an online server where they
24 will go up and fill out and just give their perspectives on the
25 improvements that we have made.

1 COMMISSIONER HAMILTON: Are any of
2 those participants in a rural area or were
3 you just saying you had fiber optic lines?

4 MR. GERARDI: These are all customers
5 within this area we're talking about here.

6 BY MR. GERARDI:

7 These are just some quotes from the second survey we
8 conducted -

9 COMMISSIONER HAMILTON: I didn't
10 understand your answer. You said this
11 area, is that part of the rural area? I
12 mean, are there rural area customers that
13 are subject to your test?

14 MR. GERARDI: This is a map of the
15 area here. This is Charlotte.

16 COMMISSIONER HAMILTON: So you - this
17 whole test is being conducted in the
18 Charlotte area; is that true?

19 MR. GERARDI: Yes, I'm sorry

20 COMMISSIONER HAMILTON: Okay.

21 MR. GERARDI: Yes, this is actually
22 where the trial area is relative to
23 downtown Charlotte.

24 BY MR. GERARDI:

1 Again, this is some feedback from the customers who
2 participated in the second survey, and again, we learned a lot
3 about the technology last year. One of the purposes of that
4 trial was to really stretch out the technology. So we know
5 that for some of the customers within that trial area, they
6 were not getting optimal service, the service that we had
7 started to provide, where they were more than five or six
8 transformers away from an injection point and were getting less
9 than optimal service. Others were getting fantastic service,
10 but I think we received over 80 percent satisfied rating from
11 the customers in that trial, and they have been giving us
12 tremendous feedback in allowing us to come into their homes and
13 testing any existing issues within that home. last year. So
14 it's been a very good experience. Thos picutres there it's an
15 example, the modem that we used last year, again that's a size
16 that is placed right into the customer's home.

17 So we talked a lot about those services listed here on the
18 upper hand part of the slide, which are certainly great
19 applications for customers. But we see a great opportunity for
20 a bunch of other applications listed here on the bottom to
21 include customer satisfaction and really improve the value that
22 they provide for those type of customers. Some of the examples
23 of those include enhanced metering services. Today we have
24 customers that are - that manage large facilities and have
25 multiple tenents in those facilities. We provide sub-metering

1 capabilities for that where you will have, you know, a 100-
2 square-foot pizza shop and next door you will have a clothing
3 store. And the 100-square-foot pizza shop will use a lot more
4 power than the clothing store next door, but they do it by
5 square footage. So that is not really an equitable
6 distribution of costs. This technology allows us to do sub-
7 metering types of applications that are a lot more cost
8 effective than we've been able to do it in the past, so we'll
9 be able to do a lot more of those applications to those
10 customers.

11 In terms of monitoring and control, one of the things that
12 we're looking at there is in the manufacturing facilities and
13 in other facilities where you can use these communications
14 directly through the power lines to control devices that you
15 don't have other communications equipment to do that. Security
16 and lighting is another great example of enhancing what today
17 are traditional dusk-to-dawn type of operations. We can now
18 install cameras wherever there's power and put smart photo cell
19 technology on there and technology that allow us to control
20 when those lights on or off, schedule those, also detect when
21 those lights have failed so we can have a day burner or you can
22 have one that's out. You can repair that much more quickly.
23 So those are all things that we foresee happening.

24 That black screen that you see there is actually a picture
25 of a tool that we used to monitor BPL equipment in the

1 substation, the Alpine Creek substation which is in the trial
2 area. But that same application can be used in a manufacturing
3 setting for a large commercial customer to a power company for
4 load management.

5 And finally, this thermostat that you see over here is
6 something that we are testing that we can talk to remotely
7 again through powerline communications. Today we have varied
8 customer-intrusive local call systems. They are very binary,
9 they are on or they are off. These new systems allow us to
10 adjust the temperature by several degrees, and then on an
11 aggregate basis you get the same effect, much more customer
12 friendly, much less customer intrusive.

13 So those are some examples on where we see providing
14 additional services for those commercial and residential
15 customers.

16 But clearly, then, again, what's of real value to us and
17 what we're excited about is the utility applications. Last
18 year we needed to look at all of these applications and tested
19 these out. We broke them down to three categories, metering,
20 distribution optimization and outage management. We are going
21 to focus on metering and distribution optimization because
22 those are what we spent the most time working on last year.
23 But we did all of these things including reading existing
24 mobile meter reading, enabling devices. We have talked to C&I
25 meters. Every meter that is out there now becomes a load

1 research meter. So that's a great opportunity for profiling
2 and planning. We're able to do remote connect/disconnect and
3 have price signals for certain customers. We will also be able
4 to do on-demand reads for move in/move out, so no longer do we
5 have to send someone out there to physically read the meter or
6 schedule that. So that is a convenience to the utility, and we
7 can do that for the customer now.

8 One the distribution optimization side, again, we talked a
9 bunch about inside the substation and outside, whether that was
10 circuit controlling or bank meters at the substation or it was
11 capacitor banks, reclosers or other end-of-circuit voltage type
12 of equipment out on the distribution line.

13 Let me show you some good examples of what we did last
14 year at this time after the trial started. What this slide is
15 intended to show you is it is really a continuum or spectrum of
16 benefits based on the incremental capital investment by the
17 utility. At the far left you will see that the utility will
18 get benefits from just putting the communications equipment out
19 on the infrastructure in terms of outage management. By having
20 this network management system and all these smart nodes out
21 there, we can feed that back into our output outage equipment
22 which and corrolate our analysis with other data that we
23 receive to pinpoint outages much quicker. But the real benefit
24 on the restoration piece is where we can now tell when
25 customers come back up much more quickly. So instead of

1 driving by to see whether the porch light is on, we will get
2 automatic feedback saying that the system is back up and
3 running at that customer site. And as you make additional
4 investments in components that integrate on that network, and
5 these are just some examples of those, you will get
6 increasingly more and more benefit from that network.

7 So finally if the far right hand of the spectrum is where
8 you are, realtime management and monitoring of the distribution
9 network are things for management at that VAR end.

10 Let me show you some examples of what we did last year.
11 Number one is where we worked with the manufacture of the
12 equipment that drives around in the van, our mobile meter
13 reading program that has transceivers. We took that
14 transceiver technology and put it up on the pole and
15 essentially created the hybrid AMR, automatic meter reading
16 solution. From that one device that you see hanging off of
17 that light pole, we were able to read several hundred electric
18 meters from that one location. So some of the work that we're
19 doing this year is essentially triangulating where those
20 devices need to be with the repeater to get complete
21 comprehensive coverage of that particular area. What that
22 allows you to do is do on-demand reads. It will also really
23 help in terms of traffic. One of the things that, although we
24 automated our meter readings with this whole meter-reading
25 technology it still only gets read once a month. And folks

1 become pretty savvy about when that meter, or when that van
2 comes by. This will allow us to read that meter every five
3 minutes or every five seconds if we want the profile to
4 understand if there is an issue with that, as well.

5 The next example, number two is an example of what we call
6 an exception route or demand meter. The commercial customers
7 did not participate in our mobile meter reading program, that's
8 primarily residential. These meters are still read by a meter
9 technician who comes up and physically programs that meter once
10 a month. What we did there was, as we can see on the left-hand
11 side is the existing meter, we've installed an IP or an NF
12 protocol based meter on the right-hand side and we've installed
13 a powerline communications modem in this little box and
14 provided connectivity to the IP-based meter.

15 What that allows us to do is to remove that manual read.
16 There is a story on this one. I had some of the folks who
17 worked for me out in the field one day. We had installed this
18 meter about three weeks prior to that. And the folks in the
19 energy center were reading the meter and called up one of my
20 guys and said, Bill, the meters that were installed three weeks
21 ago aren't working, we are not seeing any current through it.
22 You need to go over and check it out. He said sure and he went
23 over there. Well, this actual meter is installed at the
24 BellSouth central office across from our apartment complex
25 where we have our demonstration homes. And they have an on-

1 site generator. And they were doing their monthly checks of
2 their generators and the meter was doing exactly what it was
3 supposed to be doing. As soon as the generator went off the
4 current was back to the meter and everything was fine. So you
5 see the real time data that you get from these types of
6 systems.

7 Number three is an example of an existing piece of utility
8 equipment that we have out there in the field today. This is a
9 switch capacitor bank installed module. And again, today if
10 you want to come up and read the information off of this device
11 or reprogram it, you have to plug into this little serial
12 connector on the front. And all we've done is we've taken a
13 PLC modem and in this case it was a serial converter because
14 it's a serial device. We put that in the door of that and we
15 can now read that device remotely.

16 And finally we increased the security at our substations. One
17 of the ways we are doing that is to employ some security
18 cameras and we have installed two test cameras at the
19 substation, all through the power lines. There is an
20 additional four cameras that were installed by the automation
21 team that is automating that substation. And those cameras are
22 focused specifically on a piece of equipment to read gauges, to
23 monitor temperatures, so that will eliminate having to drive
24 out to the substation under certain conditions. So there is a
25 lot of use for cameras at substations aside from security of

1 making sure that when you actually throw a switch that you can
2 physically see what the switch is doing, as well.

3 COMMISSIONER HAMILTON: I believe the
4 application has proven to be cost
5 effective?

6 MR. GERARDI: Right. We did a pretty
7 thorough analysis last year in quantifying
8 these benefits. And the way you have to
9 quantify these benefits is you first have
10 to start off with what is my current cost
11 of operation. What does it cost me to do
12 this? So once we know that, we then looked
13 at what are the incremental costs to put
14 these applications onto this network? And
15 then what would be the net benefit of that.
16 So you will see that some applications are
17 marginal, some are very attractive. So you
18 would actually have to look at these on a
19 case-by-case basis and make that
20 justification for doing these applications.
21 But in an aggregate there is significant
22 opportunity there for us.

23 COMMISSIONER HAMILTON: Seems too it
24 would be very positive to service.

25 MR. GERARDI: Yes, sir.

1 MS. CLYBURN: In terms of some of the
2 - you talk about the benefits to the
3 companies, and I guess I'm wondering in
4 terms of, from a customer benefit side,
5 would the customer some time in the future,
6 is there a - would the customer some time
7 in the future be able to look at his or her
8 usage pattern and possibly - would they be
9 able to monitor their own usage pattern
10 with this, meaning would that information
11 be applicable via the internet or something
12 and you could make a decision about what
13 plan, you know, you have different plans
14 that I think most of us have investigated.
15 You know, would that be something that that
16 customer would have access to and possibly
17 choose a plan that is best for them for the
18 usage categories? Do you anticipate it
19 being interactive, I guess you could say?

20 MR. GERARDI: Yes. Certainly this
21 technology allows for more time-of-use
22 analysis. And one of the things we do
23 today is we can analyze an algorithm for a
24 customer where their power consumption is.
25 But what this allows us to do, especially

1 once you start to see some of these
2 appliances having some smart electronics on
3 them, we're evaluating one system that we
4 hooked up to an HVAC system that will allow
5 us to tell a customer when there is a fault
6 or failure on that system or when they need
7 to replace their filter if there is a plug
8 overflow valve so that they don't have
9 water damage. But that will also allow us
10 to read the consumption on that particular
11 appliance. So today where we do that
12 through algorithms, as this proliferates we
13 will be able to do that directly from
14 information from the devices within the
15 customer's home and present that either on
16 their bill directly to them or online
17 through our website.

18 BY MR. GERARDI:

19 Let's talk about what we're doing in 2005. As I mentioned
20 the current phase that we're in is in the pre-commercialization
21 phase, and it's really about testing out market readiness of
22 expanded services. We are going to pursue both revenue growth
23 and connectivity strategies as well as implement our business
24 structure we have selected and go-to-market and business models
25 that we've identified.

1 But unlike the first two phases the end of this phase is
2 not going to be marked by the delivery of a document. In the
3 first phase it was the business plan. In the second phase it
4 was a report. The end of this phase will really be marked by
5 our ability or our inability to meet our key objectives. Some
6 of those include agreements on wholesale access fees and
7 service level agreements with our service provider partners.
8 We have new partners that we are establishing relationships
9 with in addition to the ones that I mentioned from last year.
10 And we need to get that on paper in the form of a commercial
11 agreement. We also will be expanding our current home
12 footprint to about 10,000 homes really to test ability to scale
13 and propensity to buy on those take rates we talked about.
14 And we will also be building off the work that we did last year
15 on the facility applications side. In all those areas,
16 metering and distribution optimization and outage management
17 but really focusing on integration in the back office. In the
18 last year we put an IP meter out there and the guys on the
19 third floor were excited because they could read it and
20 reprogram it. We are now looking to integrate that back into
21 the building. So not only are you going to read that meter but
22 you're billing the customer off that meter. That's really
23 where we start to get the benefits is when we do that.

24 CHAIRMAN MITCHELL: When you conduct
25 your tests, so to speak, and as far as

1 small business and larger businesses, do
2 you have any numbers as far as any small
3 businesses you may be testing versus the
4 larger businesses and how that might relate
5 to them, as well? I've heard you mention
6 several times large lines, but is small
7 business a part of this, also?

8 MR. GERARDI: It sure is. It sure is.
9 And again, that goes from the mom-and-pop
10 three to four person operation, which we
11 have a couple in our current trial area
12 that we are providing to maybe a satellite
13 office for a larger firm or a standalone
14 much larger business. So we have - you
15 know, one of the things that is important
16 with our model in terms of an open access
17 type of model is we not only have the right
18 partners but the right amount of partners.
19 So we look to partner with folks that are
20 primarily focused on residential customers,
21 folks that are centered primarily on
22 commercial customers, some that are focused
23 only on high-speed internet, others that
24 are on telephony and others that are on
25 security. And there are others, video.

1 And so we want to have the right amount of
2 partners and the right partners. So we
3 think that by having that mix, including
4 small players and big players, that will
5 put some price pressure within that mix,
6 and at the end of the day that will benefit
7 Duke Power customers by having a broad
8 portfolio of offering and competitive
9 pricing.

10 **BY MR. GERARDI:**

11 So, in addition to those primary objectives, we will be
12 evaluating additional equipment vendors. We have three more
13 vendors that we are evaluationg currently, because clearly on a
14 broad scale deployment you will have more than one vendor that
15 you will use to establish a relationship with. We will
16 continue to work with the City of Charlotte on a variety of
17 projects. We're going to continue to help drive BPL standards
18 through our involvement in HomePlug UPA and IEEE groups. We're
19 looking to get more finalizing on the smart deployment schedule
20 and we're going to look to pilot some of those large business
21 and residential/small business services that we talked about
22 earlier later this year.

23 So, in summary, Duke Power's powerline communications
24 strategy will be focused on both revenue growth and
25 productivity strategies. And as a result of that the network

1 that we build out will be a joint use network providing both
2 utility and retail end use. The business will reside within
3 Duke Power as an unregulated entity. We will act as a
4 wholesale network provider and we will partner with multiple
5 service providers who provide voice, data, video, security and
6 other services to Duke Power customers. We're going to
7 implement a smart employment strategy, so rather than build it
8 it will come through a land grant type of approach that you may
9 have seen in the past. We're going to be smart about where we
10 build out, and our go-to-market model will have both co-
11 marketing and co-branding, a partner channel strategy and we
12 hope that Duke Power will be able to deliver new value-added
13 services to customers with this new technology.

14 And on this slide I have added some additional information
15 you may choose to go up and view. There are quite a few
16 organizations that are up there, some of the standard's
17 websites, some websites of some commercial deployments, vendors
18 and BPL task force slides there, as well. And finally, this is
19 the website that I mentioned earlier for our trial
20 participants. That site will be going away later this year.
21 We will wrap up that trial, but if you would like to get a
22 trial participant, feel free to go up there. And there may be
23 some additional information you may find.

24 So with that, thank you for your time.

1 MR. WHITT: Mr. Chairman and other
2 Commissioners, we wanted to thank Joseph
3 Melchers, Charlie Terreni and the rest of
4 your staff by helping us set this up today.
5 And we appreciated you attending on a Monday
6 morning. And Commissioner Clyburn, I'm
7 sure you understood earlier on the question
8 about the take rate that this is an open
9 forum, so there would be some questions,
10 but fortunately that was the only one today
11 that we had that response to. But we
12 appreciate the opportunity to be here very
13 much. Thank you.

14 CHAIRMAN MITCHELL: I would like to
15 say on behalf of the Commission we
16 certainly appreciate your participation in
17 allowing us to keep up with the new
18 technology. Certainly it was very, very
19 well presented. And I think it will help
20 us in the future. And certainly we're glad
21 to have Ms. Hammond with us from the Office
22 of Regulatory Staff. And we look forward
23 to many more of these in the future. Thank
24 you very much. At this time we will close
25 the presentation.

1 [WHEREUPON, at approximately 11:17 A.M., the Presentation was
2 adjourned.]

3
4 Sara L. Quattlebaum, Court Reporter
5 148 Lake Harbor Drive
6 Lexington, SC 29072
7 803.808.0394

STATE OF SOUTH CAROLINA)
)
COUNTY OF RICHLAND)

CERTIFICATE


BE IT KNOWN THAT I TOOK THE FOREGOING
PRESENTATION REGARDING THE AFOREMENTIONED CASE;

THAT I WAS THEN AND THERE A NOTARY PUBLIC IN
AND FOR THE STATE OF SOUTH CAROLINA-AT-LARGE;

THE FOREGOING TRANSCRIPT OF 51 TYPEWRITTEN PAGES
REPRESENTS A TRUE, ACCURATE AND COMPLETE TRANSCRIPTION OF THE
TESTIMONY SO GIVEN AT THE TIME AND PLACE AFORESAID TO THE
BEST OF MY SKILL AND ABILITY;

THAT I AM NOT RELATED TO NOR AN EMPLOYEE OF
ANY OF THE PARTIES HERETO, NOR A RELATIVE OR EMPLOYEE OF
ANY ATTORNEY OR COUNSEL EMPLOYED BY THE PARTIES HERETO,
NOR INTERESTED IN THE OUTCOME OF THIS ACTION.

WITNESS MY HAND AND SEAL THIS 21st DAY OF JUNE,
2005.



SARA L. QUATTLEBAUM
NOTARY PUBLIC FOR SOUTH CAROLINA
MY COMMISSION EXPIRES JULY 12, 2012



Broadband over Power Lines

Bob Gerardi

Powerline Communications Program Manager

*June 20, 2005
Commission Briefing
Columbia, SC*

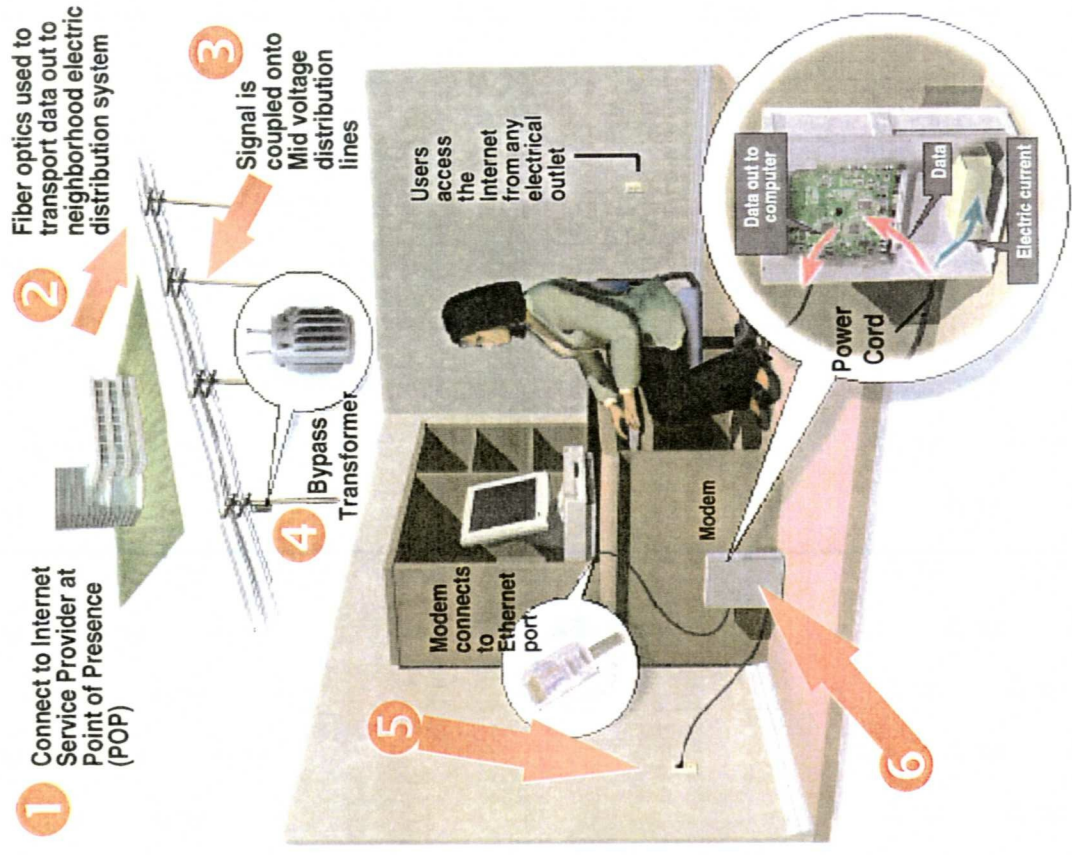
Topics

- BPL Primer
- Industry Snapshot
- Phase Gate Process
- Key Elements of PLC Strategy
- 2004 - Year in Review
- 2005 Plan

Duke Power's BPL Service

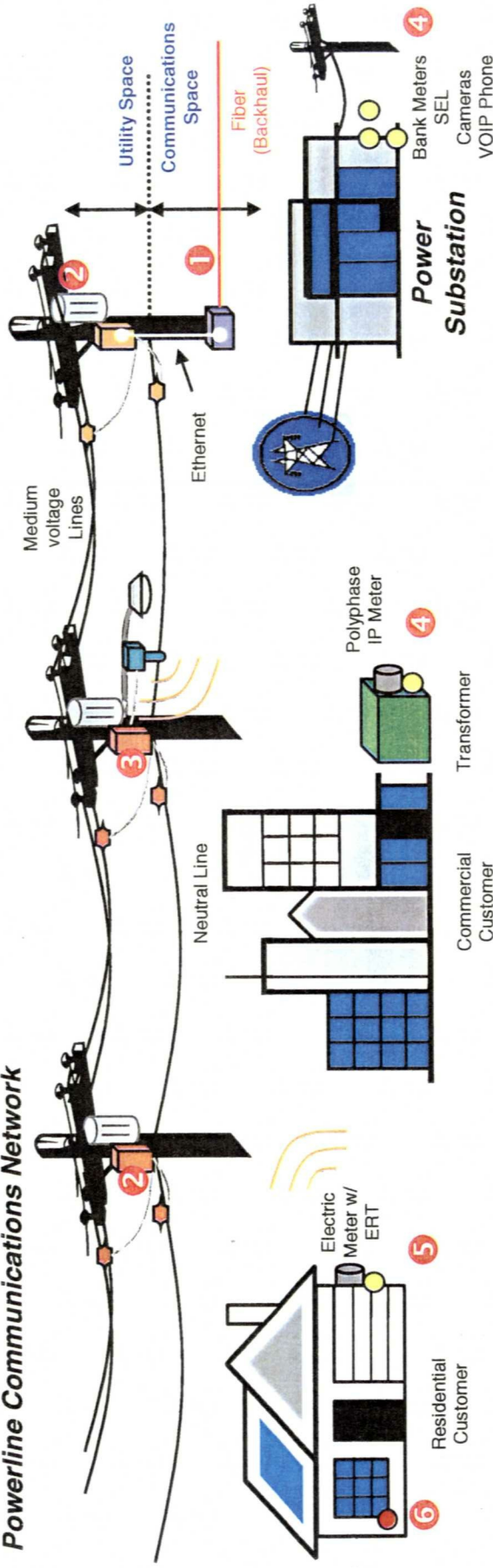


- Interconnection with service provider partners at existing DukeNet facilities
- Use fiber optic network to transport out to neighborhood (FTTN)
- Coupler injects signal onto medium voltage distribution system. Signal is repeated as necessary
- At customer premise, transformer is bypassed and signal is injected on low voltage line
- Customer receives signal through outlets in home
- Special modem extracts signal and communicates via Ethernet to computer



Joint-use PLC Network

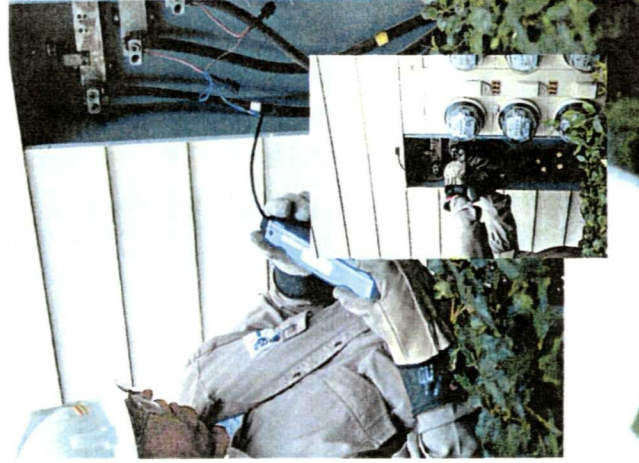
Powerline Communications Network



PLC Network Components	Use	Comments
1 Backhaul component of PLC network	Joint	Provides connection back to POP (IP drain)
2 MV Collectors/Repeaters for PLC backbone	Joint	Transformers serving BPL customers would have repeaters with bypass coupler to transfer signal to LV line
3 MV repeaters w/ utility devices attached to Ethernet port	Utility	Example is MMR collector device to read ERT meters
4 LV repeater dedicated to utility application	Utility	Examples include IP meters, substation cameras, etc.
5 LV repeater at residential meter for BPL	BPL	Required at some residences to amplify signal into home
6 BPL Customer Premise Equipment (CPE)	BPL	Cost borne by service provider

- PLC Collector/Injection Point
- Mid Volt Coupler/Repeater
- Low Volt Repeater
- BPL Modem (CPE)
- RF Collector for ERT Meters

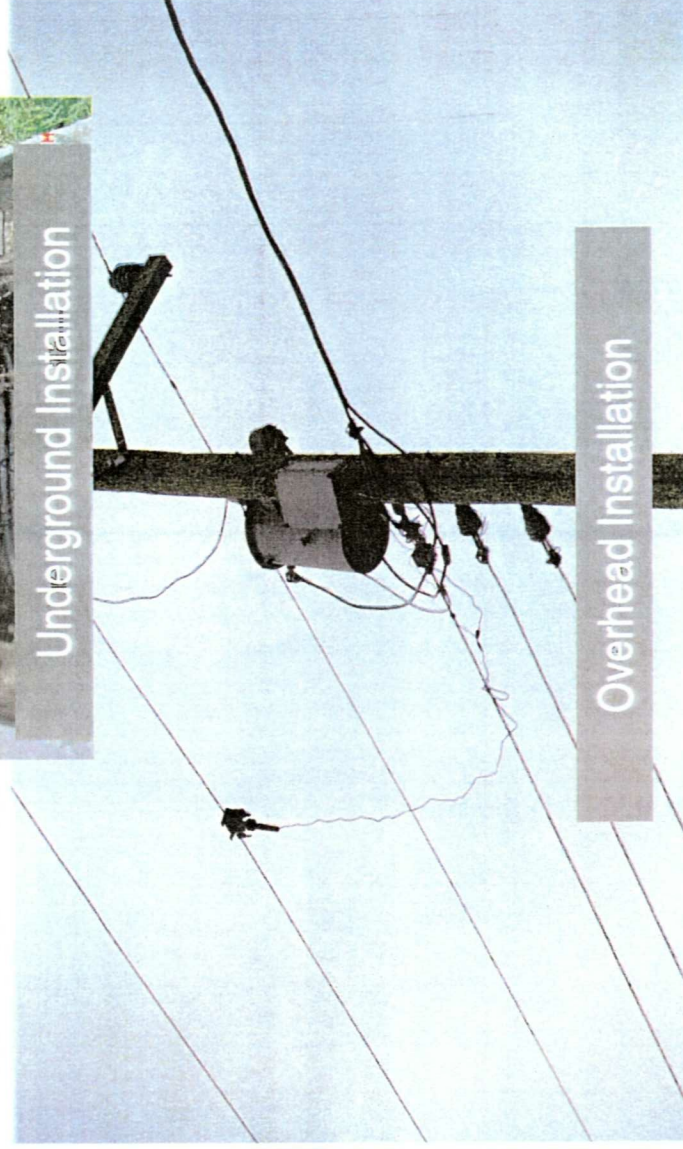
PLC Equipment Installation



Low Voltage Repeater Installation



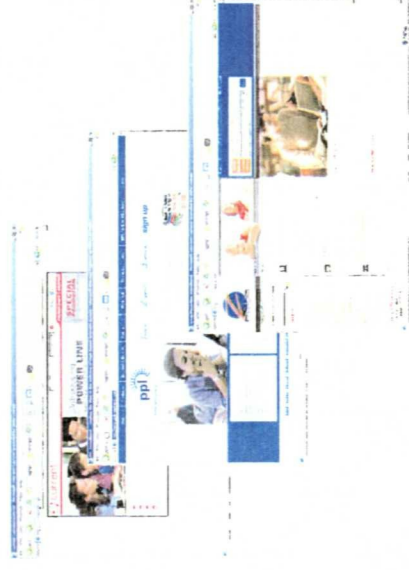
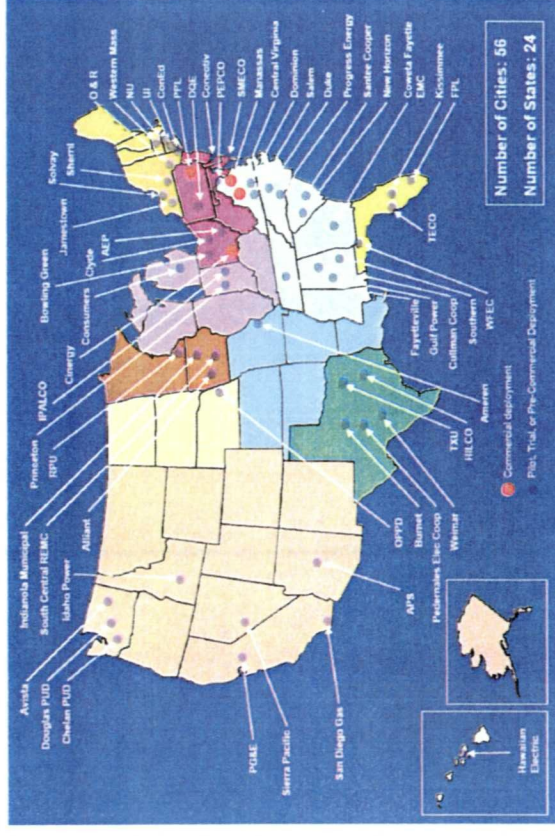
Underground Installation



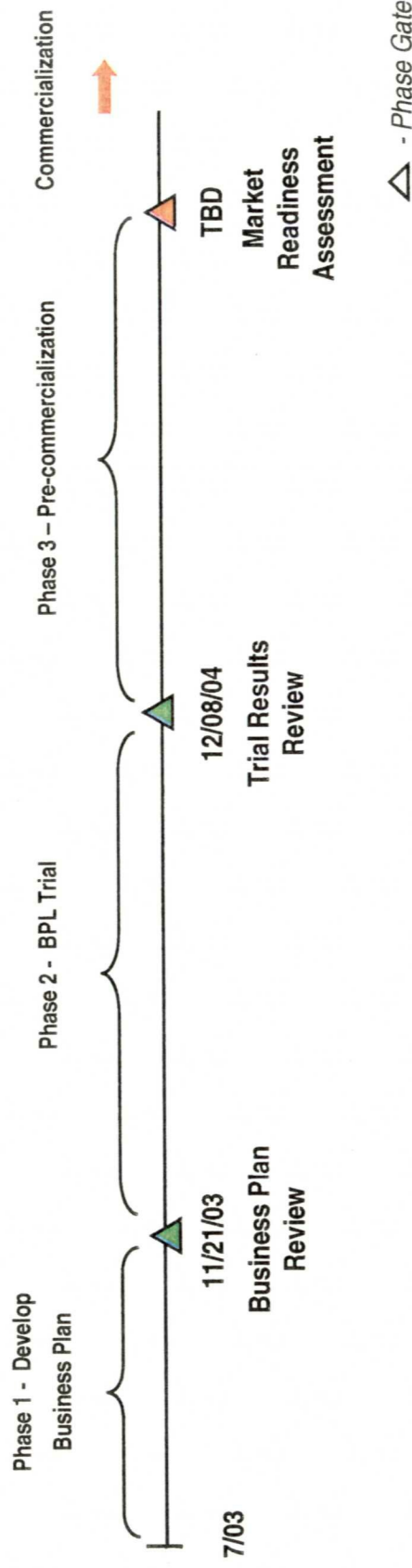
Overhead Installation

Industry Snapshot

- Currently more than **50** U.S. utilities are investigating BPL. Cinergy, PPL and the City of Manassas have commercial deployments.
- Established equipment manufacturers have entered the market (i.e. Motorola, Mitsubishi Electric).
- On-line gaming, music, telework and digital photography emerging as significant drivers for broadband penetration.
- Five organizations are working on BPL standards (HomePlug, IEEE, OPERA, UPA, CEPCA)
- BPL technology has a significant potential to offer new facility-based competition for broadband services.

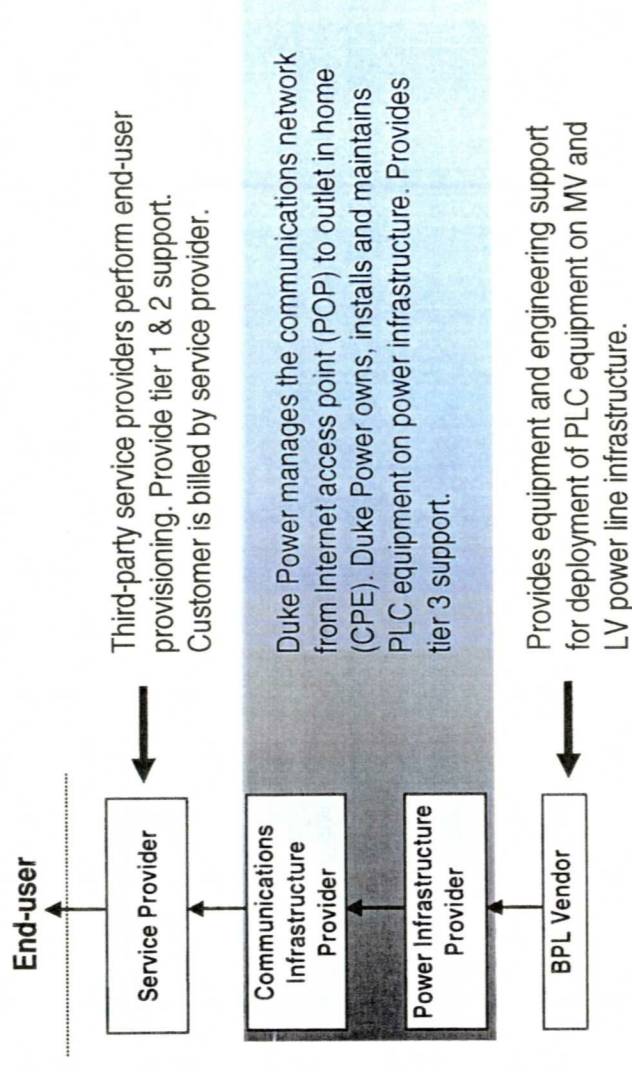


Phase Gate Process



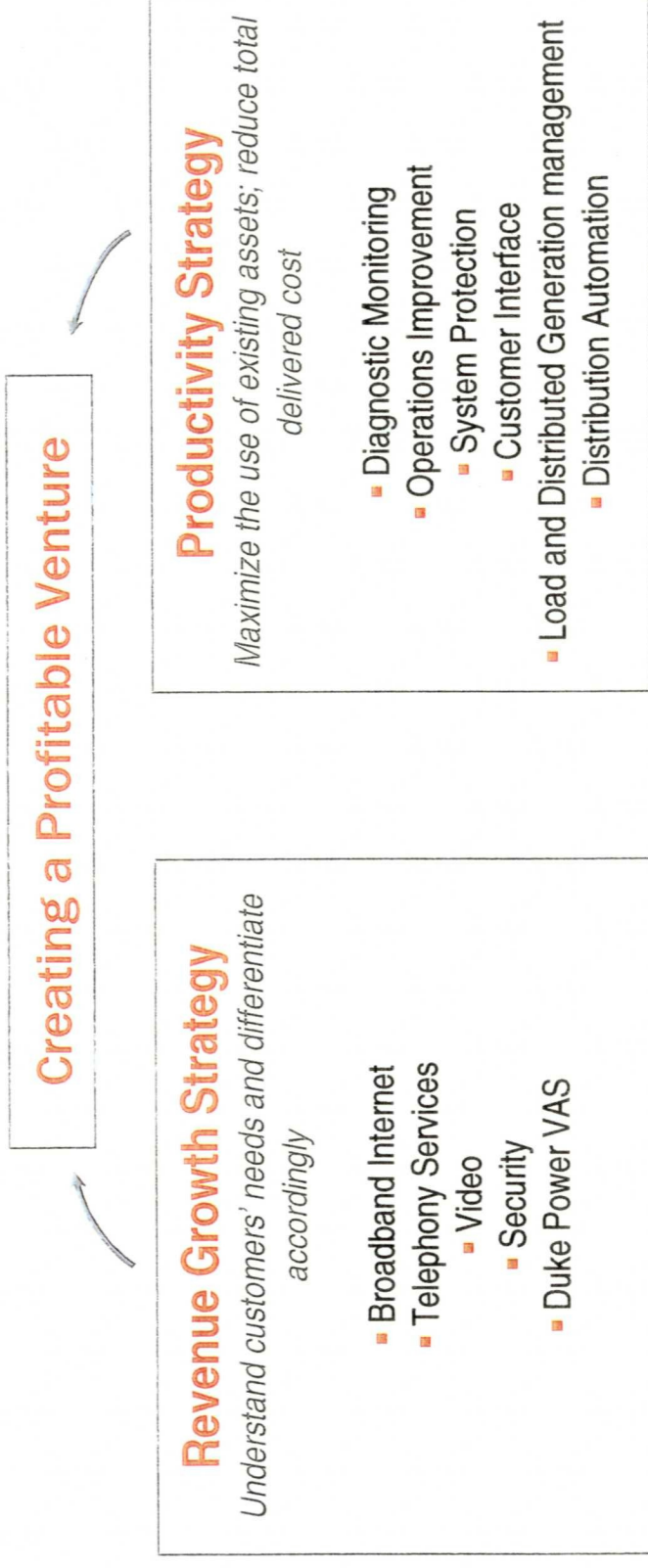
- Formal business plan presented in November 2003
- Successfully completed Phase 2 on 12/8/04
- Currently in Phase 3 – pre-commercialization phase (2005)

Duke Power's Business Model



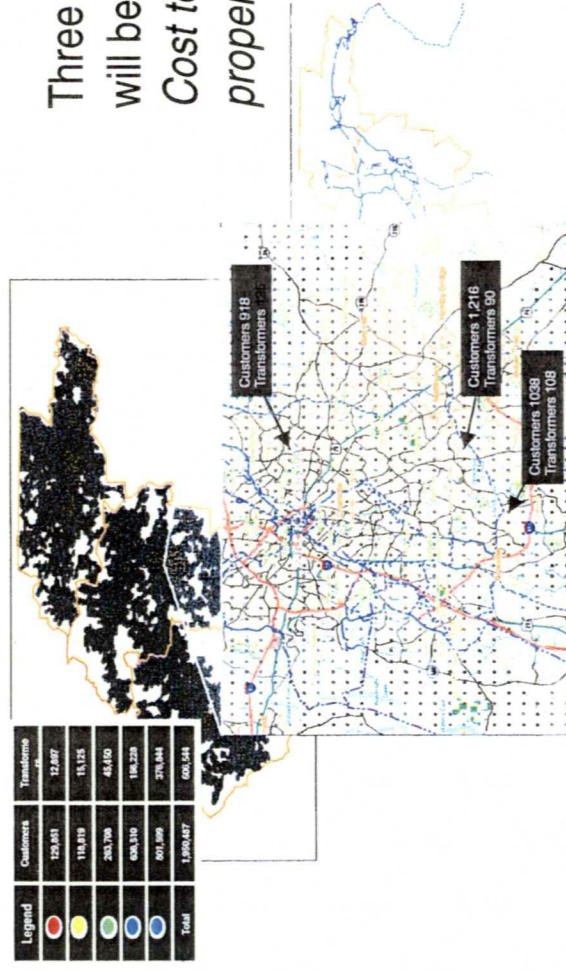
- Duke Power would act as a wholesale network provider, providing access to its network to multiple service providers in return for access fees (fixed and variable).
- Model leverages the brand equity and core capabilities of incumbent service providers in areas such as end-user provisioning, back-office systems, customer support and billing.
- Service Provider value proposition is a more profitable alternative to traditional wire line cost structures (non-competing)
- Go-to-market model includes co-marketing/branding and partner channel strategy

Powerline Communications Strategy



- Pursuing both revenue growth and productivity strategies (one mitigates risk from the other)
- Revenue streams from wholesale access fees to PLC network and Duke value-added services (retail)
- Improved operations from automation in metering, distribution control and outage management
- Business will reside within Duke Power to centrally manage both strategies

Smart Deployment Strategy



Three main factors determine how a PLC network will be built out via a Smart deployment strategy:
Cost to deploy, continuity of operations and propensity to buy.

Cost to Deploy: Target the most profitable areas to build initially, postpone development in other regions until later, or potentially never. Anticipated economic improvement of the technology over the next few years is expected to make less-profitable portions of the market more viable over time. Main drivers behind deployment cost: *customer/transformer density, proximity to fiber and the mixture of underground and overhead distribution.*

Continuity of Operations – The PLC network will need to be built out in a contiguous cellular manner so that sufficient circuit, substation and eventually operating zone coverage is comprehended to enable the benefits from utility applications integrated into the PLC network. Also, this may drive network deployment in more rural areas to achieve automation benefits.

Propensity to Buy – Service provider partners will want to target customers they believe will provide sufficient subscription rates that will provide them the ROI from access fees to the network.

BPL Trial

2004 Activities

- Partnered with **AT&T**, **EarthLink** and **LecStar Telecom** for the delivery of broadband Internet and telephony services.
- Worked with **CPI Security** on the evaluation of new home monitoring systems using BPL network.
- Worked with the **City of Charlotte** on a variety of projects including camera and traffic signal control, water meter reading and communications with fire stations.
- Duke Power evaluated metering, distribution optimization, outage management and asset management capabilities using the deployed network.
- UNC-C conducted measurements of radiated emissions to understand any interference issues.
- Created a BPL demonstration home for showcasing commercial and utility applications.



BPL Trial

Logistics

- Currently covering approximately 500 residences with some small-to-medium size businesses.
- To date, approximately 80 customers have signed up to participate in the trial.
- Mixture of overhead and underground distribution; single and multi-family dwellings.
- Utility application equipment is installed on the distribution network and at McAlpine substation.
- The trial is currently free to participants in exchange for feedback on service



Customer Experience

Customer Quotes:

"We absolutely love BPL, especially the fact that you can virtually plug it into any room and gain access to the Internet."

"I'm amazed...had no clue it was capable."

"I will strongly consider purchasing this if and only if: the speed is comparable or at least close to DSL, the price is lower than \$30 per month, and it proves to be a stable connection."

"We hope that Duke decides to continue this service (BPL)."

"Love it. Speed it up"

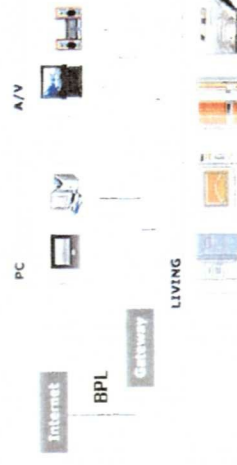
"Overall, I have been pleased with the BPL technology; I have had a few problems, and my only complaint is that I found the service line almost impossible to use - I was on hold for long periods of time and finally just gave up."



Innovation for the Customer

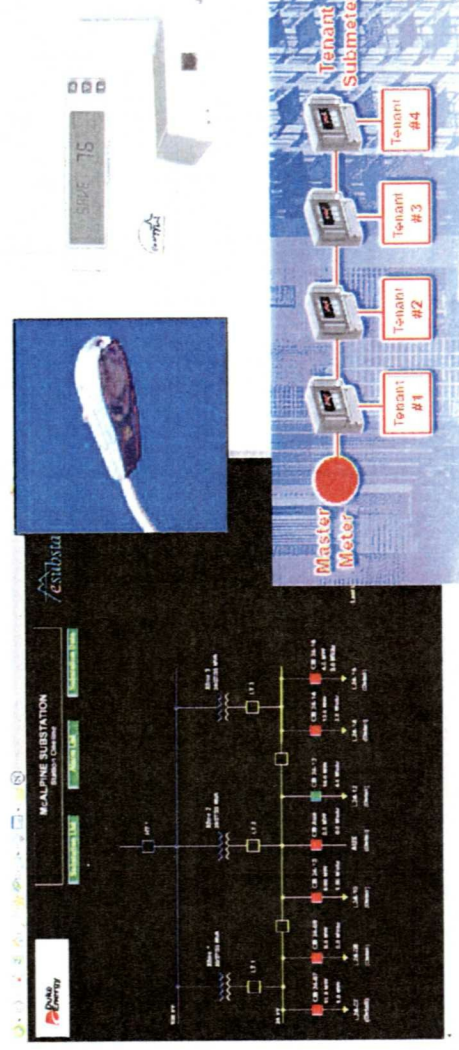
Residential/Small Business Applications

- Broadband Internet services
- Voice over Internet Protocol (VOIP)
- Video Conferencing
- Streaming Video
- IP Cameras
- Security Systems
- Smart Appliances



Commercial Applications

- Enhanced Metering Services
- Monitoring and Control
- Safety, Security and Lighting
- Power Quality / Load Management



Utility Applications

Metering



- Read existing Mobile Meter Read (MMR) meters
- C&I meters
- Load Research
- Price Signals
- Pre-paid metering
- Service Disconnect
- On-demand Reads
- Outage restoration
- Gas & Water readings

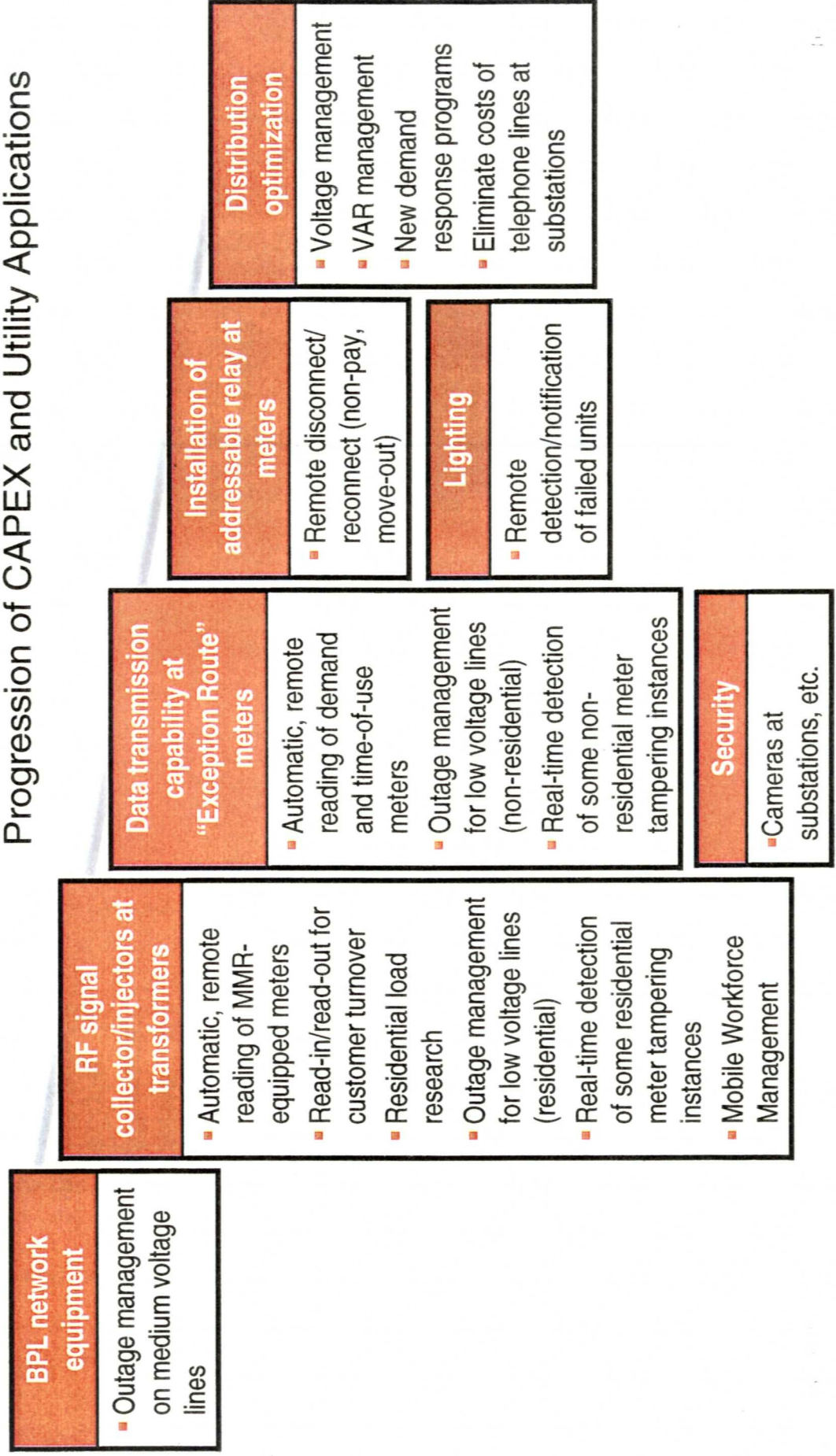
Distribution Optimization



- Circuit Controller's
- Bank Meters
- Substation Equipment
- Distribution equipment
 - Capacitors
 - Reclosers
 - End-of-circuit Voltage
- Outage Detection
- Fault Location

Utility Benefits

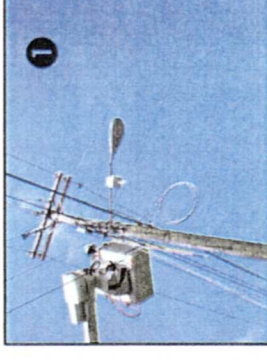
Progression of CAPEX and Utility Applications



Utility Applications Examples

① ITRON ERT meter collector

- Enables hybrid AMR solution leveraging existing MMR infrastructure
- Enables electric, gas and water meter reads



② Form 9 Polyphase transformer rated IP meter

- Replacement for exception route meter
- Enables remote reading and programming



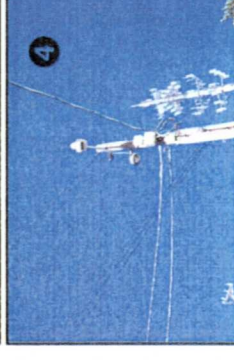
③ Switched capacitor bank control model

- Existing utility equipment
- Enables remote reading and programming



④ Security camera at substation

- New utility application
- Remote monitoring of facilities



2005 Operational Plan

The current phase is a pre-commercialization phase:

- The intent of Phase 3 is a market readiness assessment of expanded services.
- Revenue growth and productivity strategies will be implemented using the selected business structure, go-to-market and business models.
- Unlike the first two phases, the end of this phase is not marked by the delivery of a document, but rather our ability to successfully meet the following key objectives:
 - Agreement on wholesale access fees and Service Level Agreements (SLA) with service providers, resulting in commercial agreements.
 - Expansion of existing 500 home trial to 10,000 home market trial with paying customers to test take rates and scalability of network.
 - Expansion of utility applications in areas of metering, distribution optimization and outage management and integration with back office systems. Realization of utility benefits.

2005 Operational Plan

In addition to the primary objectives, we intend to:

- Perform evaluation of additional BPL equipment vendors
- Continue work with City of Charlotte on various projects
- Help drive BPL standards through involvement in HomePlug, UPA and IEEE groups
- Finalize smart deployment schedule
- Pilot large business and residential/small business value-added services

Summary

Duke's Powerline Communications Strategy:

- Pursue both revenue growth and productivity strategies
 - PLC network will be a joint-use network (utility/retail)
- Business will reside within Duke Power as an unregulated entity
- Duke Power will act as a wholesale network provider
- Partner with multiple service provider partners (voice/data/video/security)
- Implement a smart deployment strategy driven by *cost-to-deploy, continuity of operations* and *propensity to buy*
- Go-to-market model includes co-marketing/branding and partner channel strategy
- Deliver new Duke Power value-added services enabled by technology

Additional Information

Industry Organizations

United Power Line Council: <http://www.uplc.utc.org/>
Power Line Communications Association: <http://www.plca.net/>

Standard Groups

Universal Powerline Association: <http://www.upaplc.org/>
HomePlug: <http://www.homeplug.org/en/index.asp>
IEEE: <http://grouper.ieee.org/groups/bpl/index.html>

Deployments

City of Manassas: <http://www.zplug.com>
PPL: <http://www.pplbroadband.com>
Cinergy: <http://www.current.net>

BPL Trials

EarthLink/Con Edison trial in NYC: <http://www.earthlinkconed.net>
CenterPoint Energy BPL trial site: <http://www.cnp-powerconnect.com/whatisbpl.html>

Vendors

Mitsubishi Electric: <http://global.mitsubishielectric.com/bu/plc/index.html>
Main.net: <http://www.mainnet-plc.com/>
Amperion: <http://www.amperion.com/>
Ambient: <http://www.ambientcorp.com/>
Current Technologies: <http://www.currenttechnologies.com/>

NARUC BPL Task Force

http://www.naruc.org/associations/1773/files/bplreport_0205.pdf



For more information, visit www.dukepower.com/bpl